TP 13198E

TRANSPORTATION IN CANADA 2002

ANNUAL REPORT

Transport Canada
Transports Canada

Canada

103-04954/

TP 13198E

TRANSPORTATION IN CANADA 2002

ANNUAL REPORT

Transport Canada Transports Canada

Canada

© Minister of Public Works and Government Services, Canada, 2002

Cat. No. T1-10/2001E
ISBN 0-662-34028-0

Également disponible en français sous le titre « Les transports au Canada 2002 »

Minister of Transport
Ministre des Transports

Ottawa, Canada K1A 0N5

3/5/03

Her Excellency the Right Honourable Adrienne Clarkson, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa, Ontario
K1A 0A1

Excellency:

It is with great pleasure that I submit for your attention, the seventh Annual Report on the state of transportation in Canada. This report is produced in conformity with the statutory requirements spelled out in Section 52 of the *Canada Transportation Act*.

This report, and the six previous ones, provides useful information to understand the challenges identified in **Straight Ahead**, the vision document on the future of our transportation system that I released earlier this year. **Straight Ahead** proposes for our transportation system a visionary framework to embrace to maintain prosperity and quality of life over the next decade and beyond as well as strategic directions to address key issues and specific legislative proposals in certain areas.

The report gives an overview of trends and factors influencing the evolution of transportation needs, from those emanating from socio-economic demands, to the ones resulting from changes in market conditions, allowing a good understanding of the resulting challenges for our country's transportation system. The report is a guide to understanding the demands placed on the Canadian transportation system and the pressures on its efficiency. The role and state of the transportation sector need to be assessed on an ongoing basis using the most recent information available on Canada's transportation system.

Transportation is of fundamental importance to Canada as it supports and enables social and economic activities.

Yours sincerely,

Hon. David M. Collenette, P.C., M.P.

TABLE OF CONTENTS

Page

Report Highlights i

1. **Introduction** 1

2. **Transportation and the Economy** 3
   Canadian Economic Performance 3
   Urbanization and Travel to Work 5
   International Trade and Trade Flows 7
   Tourism 8
   Employment 8
   Energy Consumption 8
   Productivity and Price Performance of Transport 8
   Importance of Transportation to the Canadian Economy 9

3. **Government Spending on Transportation** 13
   Government Transportation Expenditures 13
   Total Transportation Revenues by Level of Government 15
   Overview of Expenditures and Revenues by Mode 16

4. **Transportation Safety and Security** 19
   Transportation Safety 20
   Transportation Security 26

5. **Transportation and the Environment** 29
   Environmental Impacts of Transportation 29

6. **Rail Transportation** 39
   Major Events in 2002 39
   Infrastructure 39
   Industry Structure 40
   Employment 41
   Energy 41
   Freight Transportation 42
   Passenger Traffic 45
   Price, Productivity and Financial Performance 45

7. **Road Transportation** 47
   Major Events in 2002 47
   Infrastructure 48
   Industry Structure 48
   Passenger Transportation 51
   Freight Transportation 51
   Price, Productivity and Financial Performance 54

TABLE OF CONTENTS (Cont'd)

8. Marine Transportation 57
- Major Events in 2002 57
- Infrastructure 58
- Industry Structure 64
- Passenger Transportation 66
- Freight Transportation 67

9. Air Transportation 73
- Major Events in 2002 73
- Infrastructure 75
- Industry Structure 77
- Freight Transportation 79
- Passenger Transportation 79

LIST OF TABLES

Title Page

2. Transportation and the Economy

2-1: General Economic Indicators, 2002 3
2-2: Provincial Economic Growth, 2001/02 5
2-3: Workers in the Core and Suburbs, Top Five Census Metropolitan Areas, 2001 6
2-4: Workers' Usual Mode of Transportation to Work in the Top Five Census Metropolitan Areas, 2001 6
2-5: International Travel, 2002 8
2-6: Commercial Transportation as a Proportion of GDP, 2002 9
2-7: Transportation Demand as a Proportion of GDP, 2002 10
2-8: Commercial Transportation as a Proportion of GDP by Province and Territory, 2001 10
2-9: Personal Expenditures on Transportation in the Provinces and Territories, 2001 11

3. Government Spending on Transportation

3-1: Governments' Gross and Net Expenditures on Transportation 13
3-2: Federal Operating, Maintenance and Capital Expenditures, 1998/99 – 2002/03 14
3-3: Direct Federal Subsidies, Grants and Contributions by Mode, 1998/99 – 2002/03 14
3-4: Government Revenues from Transport Users, 1998/99 – 2002/03 16
3-5: Transport Expenditure/Revenues by Mode and Level of Government, 1998/99 – 2002/03 17

4. Transportation Safety and Security

4-1: Summary of Transportation Safety Statistics by Mode, 2001 and 2002 20
4-2: Marine Occurrences, 2001 – 2002 23

5. Transportation and the Environment

5-1: Emissions from Transport Canada Activities, 1998/99 – 2001/02 32

6. Rail Transportation

6-1: Railways in Canada, 2002 39
6-2: Railway Rationalization in Canada, 2002 40
6-3: Railway Revenues, 2000 and 2001 41
6-4: Employment in the Rail Industry, 2000 and 2001 41
6-5: Railway Output in Millions of Revenue Tonne-Kilometres, 2000 and 2001 41
6-6: Railway Fuel Consumption, 2000 and 2001 41
6-7: Financial Indicators of Short Line Railways 45

7. Road Transportation

7-1: For-Hire Carrier Revenues by Market Segment, 1999 – 2001 49
7-2: Distribution of Total For-Hire Trucking Revenues by Size of Carrier, 2000 – 2001 49
7-3: Distribution of Vehicle Activity by Vehicle Body, 2001 51
7-4: Fuel Efficiency of Vehicles, 2001 52
7-5: Canada's Heavy Truck Fleet, 2001 52
7-6: Vehicle-Kilometres Driven by Type of Vehicle Configuration, 2001 53
7-7: Typical Use of Canada's Medium and Heavy Trucks, 2001 53
7-8: Selected Provincial Systems Indicators, 2001 55

8. Marine Transportation

8-1: Port Classifications as of December 31, 2002 59
8-2: DFO Fishing Harbours by Management Type and Region, as of January 3, 2003 61
8-3: DFO Recreational Harbours Divested by Region, as of January 3, 2003 61
8-4: Recipients of Divested DFO Recreational Harbours, as of January 3, 2003 61
8-5: DFO Recreational Harbours by Management Type, as of January 3, 2003 61
8-6: Pilotage Authority Financial Results, 2002 62
8-7: Total Pilotage Assignments and Assignments per Pilot, 2002 62
8-8: Canadian Coast Guard Revenues and Budgeted Expenditures, 2002/03 63
8-9: St. Lawrence Seaway Cargo Movements, 2001 and 2002 63
8-10: St. Lawrence Seaway Traffic by Commodity, 2001 and 2002 63

Title *Page*

8-11: St. Lawrence Seaway Financial Performance, 1999/2000 to 2001/02 64
8-12: Canadian-Registered Fleet by Type, 1982, 1992 and 2002 64
8-13: Shipping Conferences Serving Canada in 2002 66
8-14: International Cruise Ship Traffic at Major Canadian Ports, 2001 and 2002 67
8-15: Canada's Marine Traffic Statistics by Sector, 2000 and 2001 67
8-16: Canadian-Flag Share of Canadian Waterborne Trade, 2001 67
8-17: Share of Tonnage Carried by Foreign-Flag Ships in the Canadian Coasting Trade, 2000 and 2001 68
8-18: Marine Domestic Flows by Canadian Region, 2001 68
8-19: Conference/Non-Conference Shares of Canadian Liner Trade, 2000 – 2001 69
8-20: Liner Traffic by Region, 2001 69
8-21: Canada's Maritime Trade with the United States, 2000 – 2001 69
8-22: Canada's Marine Traffic to the United States, 2001 70
8-23: Canada's Marine Traffic from the United States, 2001 70
8-24: Canada's Maritime Overseas Trade, 2000 – 2001 70
8-25: Canada's Marine Traffic to Overseas, 2001 71
8-26: Canada's Marine Traffic from Overseas, 2001 71
8-27: Value of Marine Share of Canadian International Trade, 2001 71

9. Air Transportation

9-1: Canadian Land Airports for Fixed-Wing Aircraft, 2002 75
9-2: Financial Summary for NAV CANADA, 2001 and 2002 77
9-3: Air Passenger Traffic, 1998 – 2002 80

LIST OF FIGURES

Title *Page*

2. Transportation and the Economy

2-1: Real GDP by Major Sector, 1997 – 2002 4
2-2: Real GDP of Canada and Other Regions, 1998 – 2002 4
2-3: Type of Commute to Work in All Census Metropolitan Areas, 1981, 1991 and 2001 6
2-4: Value of Goods Traded Between Canada and the United States, 1990 – 2002 7
2-5: Value of Goods Traded Between Canada and Countries Other Than the United States, 1990 – 2002 7

3. Government Spending on Transportation

3-1: Provincial Share of Local and Provincial Transport Expenditures, 1990 – 1997 and 1998 – 2001 15

4. Transportation Safety and Security

4-1: Tracking the Safety of Modes, 2002 20
4-2: Crossing and Trespasser Accidents, 1993 – 2002 21
4-3: Occupant Fatalities Decrease as Seat Belt Wearing Rates Increase, 1988 – 2001 22
4-4: Security Activities Recalled and Most Aware of by Canadians 26

5. Transportation and the Environment

5-1: GHG Emissions from Secondary Energy Use in Canada, 2000 29
5-2: Road Gasoline GHG Emissions, 1980 – 2001 31
5-3: Road Diesel GHG Emissions, 1980 – 2001 31
5-4: Aviation Fuel GHG Emissions, 1980 – 2001 31
5-5: Rail Diesel GHG Emissions, 1980 – 2001 31
5-6: Marine Fuel GHG Emissions, 1980 – 2001 31
5-7: Emission Trends in Transport Canada Activities from 1998/99 – 2001/02 32

7. Road Transportation

7-1: Sales of Class 8 Trucks in Canada, 1990 – 2002 49
7-2: Total Revenues by Source – Urban Transit Sector, 2001 50
7-3: Total For-Hire Trucking Traffic in Annual Tonne-Kilometres, 1987 – 2001 54

8. Marine Transportation

8-1: Traffic Shares by Port Groups, 2001 60

LIST OF ADDENDUM TABLES

The Addendum is available on Transport Canada's Web site at: www.tc.gc.ca.

Title Page

2. Transportation and the Economy

A2-1: Modal Shares in Canada–United States Trade, 1993 – 2002 .... A6
A2-2: Canada/Other Countries Trade, by Mode and Sector, 1997 – 2002 .... A8
A2-3: Canada–United States Trade, by Province, 2001 – 2002 .... A8
A2-4: Canada's Road Trade with the United States by Busiest Border Crossing Points, 2002 .... A8
A2-5: Canada–United States Transborder Trade, 2002 Main North–South Trade Flows A9
2-6: Canada's Trade with Countries Other than the United States, 2002 Main Trade Flows – Exports A9
2-7: Canada's Trade with Countries Other than the United States, 2002 Main Trade Flows – Imports A9
2-8: Canada's Exports By Country Groupings, 2001 – 2002 .... A10
2-9: Canada's Imports By Country Groupings, 2001 – 2002 .... A10
2-10: Tourism Demand in Canada, 1997 – 2001 .... A10
2-11: Canadian Travel Account and Passenger Fares, 1998 – 2002 .... A11
2-12: Domestic Travel in Canada, 1997 – 2001 .... A12
2-13: Domestic Travel by Mode of Transport and by Purpose, 2001 .... A13
2-14: International Travel Summary, 1998 – 2002 .... A13
2-15: Visitors to Canada from Countries Other Than the United States, 1998 – 2002 .... A14
2-16: Overnight Visits to the United States for Canadians by Selected States, 2000 and 2001 .... A15
2-17: Same-Day Visits to the United States by Canadians for Selected States, 2000 and 2001 .... A15
2-18: Overseas Travel by Canadians by Selected Countries, 2000 and 2001 .... A16
2-19: Canada–United States Travel by Purpose of Travel, 2000 and 2001 .... A16
2-20: Overseas Travel by Purpose of Travel, 2000 and 2001 .... A16
2-21: Employment in the Transport Sector, 1996 – 2002 .... A16
2-22: Employment in the Rail Industry, 1996 – 2001 .... A16
2-23: Average Annual Compensation in the Rail Industry, 1996 – 2001 .... A17
2-24: Total Employment in the Trucking Industry by Region, 1996 – 2001 .... A18
2-25: Average Weekly Earnings in the Trucking Industry, 1996 – 2002 .... A19
2-26: Employment in Taxi and Limousine Services by Province, 1996 – 2002 .... A19
2-27: Number of Taxi and Limousine Drivers Employed in Each Province and Territory A19
2-28: Full-Time Employees in the Bus Industry, 1996 – 2001 .... A19
2-29: Urban Transit Employment by Region, 1996 – 2001 .... A19
2-30: Average Annual Salary in the Bus Industry, 1996 – 2001 .... A20
2-31: Employment by Canadian Port Authorities, 1998 – 2002 .... A20
2-32: Average Annual Employment in the Marine Transport Industry, 1996 – 2002 .... A20
2-33: Regional Distribution Of Employment by Ferry Operators, 1996 – 2001 .... A20
2-34: Employment by Category, St. Lawrence Seaway Management Corporation, 1996 – 2002 .... A20
2-35: Employment by Canadian Pilotage Authorities, 1996 – 2002 .... A21
2-36: Employment by Maritime Employers Associations, 1996 – 2002 .... A21
2-37: Census Employment Data Longshore Workers A21
2-38: Annual Labour Costs Per Employee, Canadian-Based Marine Carriers, 1996 – 2000 .... A22
2-39: Employment in the Air Industry, 1996 – 2001 .... A22
2-40: Employment - NAS Airports, 1998 – 2002 .... A22
2-41: Employment Related to Travel Arrangement and Reservation Services, 1996 – 2002 .... A23
2-42: Annual Labour Costs Per Employee of Canadian Air Carriers, 1996 – 2001 .... A23
2-43: Other Direct Transport-Related Employment, 1996 – 2002 .... A23
2-44: Transportation-Related Employment in Federal Departments and Agencies A24
2-45: Average Weekly Earnings in the Transportation and Warehousing Sector by Mode, 1996 – 2002 .... A24
2-46: Average Weekly Earnings in the Transportation and Warehousing Sector by Region, 1996 – 2002 .... A24
2-47: Labour Action by Mode of Transport, 1996 – 2002 .... A25
2-48: Total Energy Use in the Canadian Economy by Sector, 1990 – 2001 .... A25
2-49: Energy Consumption by Type and Mode, 1990 – 2001 .... A26
2-50: Total Transportation Energy Consumption by Province, 1990 – 2001 .... A27
2-51: Road Energy Consumption by Province, 1990 – 2001 .... A27
2-52: Aviation Energy Consumption by Province, 1990 – 2001 .... A27
2-53: Pipeline Energy Consumption by Province, 1990 – 2001 .... A28

Title *Page*
A2-54: Marine Energy Consumption by Province, 1990 – 2001 A28
A2-55: Rail Energy Consumption by Province, 1990 – 2001 A28
A2-56: Crude Oil Prices - Canadian and US$ Per Barrel, 1990 – 2002 A29
A2-57: Retail Price of Regular Unleaded Gasoline – Selected Cities, 1990 – 2002 A29
A2-58: Retail Price of Road Diesel - Selected Cities, 1990 – 2002 A29
A2-59: Components of the Retail Price of Road Fuels – 2002 National Averages A30
A2-60: Price of Other Transportation Fuels, 1990 – 2002 A30
A2-61: Price and Output Indicators Transport Industries, 1996 – 2001 A31
A2-62: Cost Structure of Transport Industries, 1996 – 2001 (As a Percentage of Total Costs) A31
A2-63: Efficiency Indicators Transport Industries, 1996 – 2001 A32
A2-64: Financial Performance of Transportation Industries, 1999 – 2002 A33
A2-65: Personal Expenditures on Transportation, 2002 A34

3. Government Spending on Transportation

A3-1: Governments' Gross and Net Expenditures on Transportation A35
A3-2: Federal Operating, Maintenance and Capital Expenditures, 1996/97 – 2002/03 A36
A3-3: Direct Federal Subsidies, Grants and Contributions by Mode, 1995/96 – 2002/03 A37
A3-4: Government Revenues from Transport Users, 1994/95 – 2002/03 A38
A3-5: Transport Expenditure/Revenues by Mode and Levels of Government, 1996/97 – 2002/03 A39
A3-6. Distribution of Provincial/Territorial and Local Transport Expenditures by Province, 1990/91 – 2001/02 A40

4. Transportation Safety and Security

A4-1: Transportation Safety Measures by Mode, 1997 – 2002 A53
A4-2: Accidents – Railways Under Federal Jurisdiction, 1997 – 2002 A54
A4-3: Accidents by Province – Railways Under Federal Jurisdiction, 1997 – 2002 A55
A4-4: Crossing and Trespasser Accidents – Railways Under Federal Jurisdiction, 1997 – 2002 A56
A4-5: Casualty Collisions, Fatalities and Injuries A56
A4-6: Casualty Rates (Per Billion Vehicle-Kilometres), 2000 and 2001 A57
A4-7: Percentage of Fatally Injured Drivers Tested and Found to Have Been Drinking (BAC >0 mg%) and the Number or Persons Charged with Impaired Driving Offences, 1987 – 2001 A57
A4-8A: Comparison of Drivers Involved in Fatal and Injury Collisions Compared with Licensed Drivers, 2001 A57
A4-8B: Comparison of Drivers Involved in Fatal and Injury Collisions per 100,000 Licensed Drivers, 1999 – 2001 A58
A4-9A: Commercial and Other Vehicles Involved in Fatal Collisions by Vehicle Type, 1997 – 2001 A58
A4-9B: Fatalities Resulting From Commercial and Other Vehicles Involved in Fatal Collisions by Vehicle Type, 1997 – 2001 A58
A4-10: Vehicles Involved in Fatal Collisions by Vehicle Type, 1997 – 2001 A58
A4-11: Fatalities by Road User Class, 1997 – 2001 A58
A4-12: Marine Occurrences, 1997 – 2002 A59
A4-13: Marine Occurrences by Region, 1997 – 2002 A60
A4-14: Small Canadian Vessels Engaged in Commercial Fishing Activity, 1997 – 2002 A61
A4-15: Canadian-Registered Aircraft Involved in Accidents and Accident Rates by Operator Type, 1997 – 2002 A62
A4-16: Aviation Occurrences and Casualties, 1997 – 2002 A63
A4-17A: Accidents Involving Canadian-Registered Aircraft by Province, 1997 – 2002 A64
A4-17B: Aircraft Movements and Accidents Rates Involving Canadian-Registered Aircraft by Province, 1997 – 2002 A65
A4-18: Reportable Accidents Involving Dangerous Goods by Mode and Phase of Transport, 1997 – 2002 A66
A4-19: Deaths and Injuries Caused by Dangerous Goods at Reportable Accidents Involving Dangerous Goods, 1997 – 2002 A66
A4-20 Total Deaths and Injuries at Reportable Accidents Involving Dangerous Goods, 1997 – 2002 A66

6. Rail Transportation

A6-1: Railway Rationalization by Province, 1990 – 2002 A67
A6-2: Railway Rationalization by Province, 2002 A67
A6-3: Railway Revenues, 1990 – 2001 A68
A6-4: Railway Employment, 1990 – 2001 A68
A6-5: Railway Fuel Consumption, 1990 – 2001 A68
A6-6: Revenue Tonne-Kilometres, 1990 – 2001 A68
A6-7: Traffic Received and Forwarded by Class II Carriers with Canadian Operations, 1996 – 2001 A69

Title *Page*
A6-8: Tonnage Originating by Railway Sector, 1990 – 2001 A69
A6-9: Annual Rail Car Loadings by Commodity, 1992 – 2002 A70
A6-10: Rail Exports and Imports by Commodity, 1996 – 2002, Thousands of tonnes A72
A6-11: Rail Exports and Imports by Commodity, 1996 – 2002, Millions of dollars A72
A6-12: Rail Exports by Province of Origin, 1996 – 2002, Thousands of tonnes A73
A6-13: Rail Exports by Province of Origin, 1996 – 2002, Millions of dollars A73
A6-14: Rail Imports by Province of Clearance, 1996 – 2002, Thousands of tonnes A73
A6-15: Rail Imports by Province of Clearance, 1996 – 2002, Millions of dollars A74
A6-16: Major Commodities Exported by Top Three Provinces of Origin, 1996 – 2002, Thousands of tonnes A74
A6-17: Major Commodities Imported by Top Three Provinces of Clearance, 1996 – 2002, Thousands of tonnes A75
A6-18: Major Commodities Exported by Top Three Provinces of Origin, 1996 – 2002, Millions of dollars A75
A6-19: Major Commodities Imported by Top Three Provinces of Clearance, 1996 – 2002, Millions of dollars A76
A6-20: Rail Exports by Port Cleared, 1996 – 2002, Thousands of tonnes A76
A6-21: Rail Exports by Port Cleared, 1996 – 2002, Millions of dollars A76
A6-22: Rail Imports by Port Cleared, 1996 – 2002, Thousands of tonnes A77
A6-23: Rail Imports by Port Cleared, 1996 – 2002, Millions of dollars A77
A6-24: Rail Marine Exports and Imports, 1996 – 2002 A77
A6-25: Rail Marine Exports by Origin, 1996 – 2002 A77
A6-26: Rail Marine Exports by Commodity, 1996 – 2002 A78
A6-27: Rail Marine Imports by Destination, 1996 – 2002 A78
A6-28: Rail Marine Imports by Commodity, 1996 – 2002 A78
A6-29: Passenger and Passenger-kms for VIA Rail and Class II Carriers, 1996 – 2001 A79
A6-30: Commuter Rail Passengers in Toronto, Montreal, and Vancouver, 1994 – 2002 A79

7. Road Transportation

A7-1: Canada's Road Network, 1990 – 2002 A80
A7-2: Annual Trucking Bankruptcies by Region, 1990 – 2002 A80
A7-3: Distribution of Total For-Hire Trucking Revenues by Size of Carrier, 1991 – 2001 A80
A7-4: Total Revenues by Urban Transit Operators, 1995 – 2001 A81
A7-5: Long-Term Trends in Urban Transit – Passengers Carried and Vehicle-Kilometres, 1981 – 2001 A81
A7-6: Urban Transit Fleet Composition, 1995 – 2001 A81
A7-7: Urban Transit Operators, 1995 – 2001 A81
A7-8: Total For-Hire Truck Traffic Annual Tonne-Kilometres, 1987 – 2001 A82
A7-9: For-Hire Truck Traffic by Sector snd Province, 2001 A82
A7-10: For-Hire Truck International Traffic by Major Flows and Province, 2001 A82
A7-11: For-Hire Trucking Traffic by Sector and Commodity Group, 2001 A82
A7-12: Twenty Largest Border Crossings for Trucks, 1999 – 2002 A83
A7-13: Twenty Largest Border Crossings, Cars/Other Vehicles, 1999 – 2002 A83

8. Marine Transportation

A8-1: Number of Port Sites Under the Control and Administration of Transport Canada by Province, 1995 – 2002 A84
A8-2: Divestiture Status of Transport Canada Regional/Local and Remote Ports A84
A8-3: Canada Port Authorities Financial Profiles, 2001 A85
A8-4: CPA Financial Comparison, 2000 and 2001 A86
A8-5: Financial Results of Major Ports, 1997 – 2001 A86
A8-6: Financial Results for Transport Canada Ports, 1997/98 – 2001/02 A86
A8-7: Total Tonnage Handled in Canada's Port System, 2000 – 2001 A86
A8-8: Total Pilotage Assignments and Assignments Per Pilot, 1998 – 2002 A87
A8-9: St. Lawrence Seaway Cargo Movements, 1990 – 2002 A87
A8-10: St. Lawrence Seaway Traffic by Commodity, 1993 – 2002 A87
A8-11: Overview of Major Ferry Services A88
A8-12: International Cruise Ship Traffic at Major Canadian Ports, 1992 – 2002 A89
A8-13: Canada's Marine Traffic Statistics by Sector, 1986 – 2001 A89
A8-14: Share of Tonnage Carried by Foreign-Flag Ships in the Canadian Coasting Trade, 1988 – 2001 A89
A8-15: Conference/Non-Conference Shares of Canadian Liner Trade, 1994 – 2001 A89

Title *Page*

A8-16: Canada's Maritime Trade With the United States, 1986 – 2001 . . . . . A89
A8-17: Canada's Overseas Maritime Trade with the United States, 1986 – 2001 . . . . . A89
A8-18: Total Marine Imports/Exports, by Commodities, 2001 . . . . . A90

9. Air Transportation

A9-1: Airport Authorities Financial Performance, 2001 . . . . . A91
A9-2: Airport Capital Assistance Program Expenditures by Province, 1995/96 – 2002/03 . . . . . A92
A9-3: Airports Capital Assistance Program – Projects Approved in 2002 . . . . . A93
A9-4: Airport Improvement Fees at National Airport System (NAS) Airports, 2002 . . . . . A94
A9-5: Foreign Airlines Providing International Scheduled Services to and from Canada as of December 31, 2002 . . . . . A95
A9-6: Local Service Airlines Providing Scheduled Air Services as of December 31, 2002 . . . . . A96
A9-7: Licence Authorities Held as of December 31, 2002 . . . . . A96
A9-8: Summary of Personnel Licences and Permits as of December 31, 2002 . . . . . A96
A9-9: Personnel Licences and Permits by Province, as of December 31, 2002 . . . . . A97
A9-10: Profile of the Recreational Aviation Fleet as of December 31, 2002 . . . . . A97
A9-11: Goods Carried by Canadian Air Carriers by Sector, 1993 – 2001 . . . . . A97
A9-12: Operating Goods Revenues of Canadian Air Carriers by Sector, 1993 – 2001 . . . . . A97
A9-13: Value of International Goods Shipped by Air, 1997 – 2002 . . . . . A97
A9-14: Air Exports and Imports by World Region, 2001 and 2002 . . . . . A98
A9-15: Enplaned/Deplaned Revenue Passengers, 2001 . . . . . A98
A9-16: Changes to Domestic Scheduled Air Services, 2001 (minimum 25 daily seats) A99
A9-17: Changes to Transborder Scheduled Air Services, 2001 (minimum 25 daily seats) A99
A9-18: Changes to International Scheduled Air Services, 2001 (minimum 25 daily seats) A100
A9-19: Average Daily Seat-Kilometres by Airline, Domestic Sector, December 2001 and 2002 . . . . . A100
A9-20: Average Daily Seat-Kilometres by Region, Domestic Sector, December 2001 and 2002 . . . . . A101
A9-21: Competition in Domestic Air Markets as of December 31, 2002 . . . . . A102

LIST OF ADDENDUM FIGURES

Title *Page*

4. Transportation Safety and Security

A4-1: Fatal Accident Rates per Million Flights, 1980-2001 . . . . . A66

6. Rail Transportation

A6-1: Rail Intermodal Traffic, 1996 – 2001 . . . . . A71
A6-2: Origin and Destination of Domestic Intermodal Traffic, 1996 – 2001 . . . . . A71
A6-3: Segment Share of Rail Intermodal Traffic, 1996 – 2001 . . . . . A71
A6-4: Rail COFC and TOFC Growth, 1996 – 2001 . . . . . A71

REPORT HIGHLIGHTS

TRANSPORTATION AND THE CANADIAN ECONOMY

- In 2002, the Canadian economy recovered from the slowdown of 2001, as the Gross Domestic Product (GDP) showed a 3.4 per cent real growth.
- The improved economic performance resulted from strong exports and consumer expenditures, particularly automobiles and housing.
- The U.S. demand for Canadian automobile products is one reason for the strong exports, while low interest rates were behind consumer demand for housing, which in turn boosted residential construction.
- The growth rate of the services sector (3.4 per cent) surpassed that of the goods sector (1.5 per cent).
- The value of the Canadian dollar in relation to the U.S. dollar fluctuated between US$0.62 and US$0.66 during 2002. Its average value over the year, however, was 2.5 per cent less than in 2001.
- The Consumer Price Index increased by 2.2 per cent in 2002, less than in 2001. While energy prices for the year were less than in 2001, users of transportation services paid 2.8 per cent more in 2002.
- In real terms, personal disposable income per capita increased by 1.5 per cent in 2002.
- While the population grew by one per cent, employment increased by 2.2 per cent (335,000 jobs).
- Alberta was the only province in 2002 to have lower economic growth than in 2001. Newfoundland and Labrador, on the other hand, experienced the strongest growth.
- The 2001 Census shows a relationship between the increasing proportion of Canadians living urban centres (10,000 people or more) and the top 27 census metropolitan areas (CMAs), as well as changes in the way Canadians commute to work.
- The population in Ontario's Golden Horseshoe, the Montreal area, British Columbia's Lower Mainland and the Calgary–Edmonton corridor grew by 7.6 per cent between 1996 and 2001. Elsewhere in Canada, the population increased by only 0.5 per cent.
- Between 1996 and 2001, the number of people within CMAs working in surrounding municipalities grew by 63 per cent, while jobs in the core areas rose by eight per cent.
- Over the last 20 years, the number of workers commuting within the core of CMAs fell by 10 per cent, while those commuting between the core and the surrounding municipalities, and between surrounding municipalities, increased. There are now more people working in CMAs than living in them.
- Canadians travelled an average of 7.2 kilometres to get to work in 2001, an increase from 1996 census results.
- More than 70 per cent of all commuters in CMAs drove a motor vehicle to work. The largest metropolitan centres reported the highest proportion of people using public transportation and the lowest proportion driving to work.
- Tourism expenditures, including expenditures on transportation, fell in 2001. Of transportation expenditures related to tourism, air transportation experienced the largest drop. Both domestic and international travel was down for all modes in 2001 and international travel fell in 2002.
- With the exception of road and marine transportation, energy demand by transportation activities decreased in 2001.
- Productivity in transportation grew by 1.9 per cent in 2001, which minimized price increases to below inflation.
- Commercial transportation services accounted for four per cent of Canada's value-added GDP. In relation to provincial/territorial GDP, the most significant importance was observed in Manitoba, British Columbia

and New Brunswick. Of the commercial transportation activity captured under the GDP, Ontario and Quebec accounted for close to 60 per cent, while Alberta and British Columbia accounted for almost 30 per cent.

- Investment in transportation represented 3.1 per cent of GDP in 2001.
- Overall transportation-related final demand accounted for almost 15 per cent of total expenditures in the economy in 2001.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2001/02, transportation expenditures by all levels of government totalled $19.2 billion, $1.2 billion more than in 2000/01. All government levels contributed to this increase.
- Government fees and tax revenues from transport users totalled $13.8 billion, 1.3 per cent more than the previous year, of which 74 per cent came from road fuel taxes.
- In 2002/03, direct federal transport expenses are expected to be $1.7 billion, a 15 per cent increase over 2001/02. While the federal government continued to spend less on operations, it increased its expenditures on road and bridges, and on safety, security and policy.
- In 2002/03, total direct federal subsidies, grants and contributions are expected to drop to $784 million.
- Provincial, territorial and local governments spent $17.2 billion on transportation in 2001/02, with roughly 79 per cent going to roads and highways.
- Also in 2001/02, governments spent $14 billion on roads, while public spending on public transit services totalled $2.7 billion. Federal and provincial governments spent $1.9 billion on air, marine and rail transportation.

TRANSPORTATION SAFETY AND SECURITY

- Canada continued to improve upon its good transportation safety record in 2002. The number of accidents in each of the modes continued a downward trend, with record lows being recorded in aviation (the lowest annual total in 25 years) and in road (the fewest casualty collisions in more than five decades). The number of marine shipping accidents also registered its lowest annual total in the past 25 years, while reported rail accidents continued a notable five-year downward trend.
- Rail-related accidents declined by 7 per cent in 2002, while fatalities decreased by 3 per cent. Crossing and trespasser accidents continued to account for the greatest proportion of fatal accidents (99 per cent) and accidents involving serious injury (82 per cent) in 2002. Direction 2006, a strategic partnership initiative involving government and industry, has as its goal to reduce the number of crossing and trespasser accidents by 50 per cent by 2006.
- One of the most notable improvements with respect to the road safety record was the reduction in the number of road-related fatalities and injuries, down from the previous year by five and three per cent, respectively. Road Safety Vision 2010, a strategic partnership initiative, has established a target of reducing the number of road-related fatalities and serious injuries by 30 per cent by 2010.
- The number of marine accidents in 2002 fell by seven per cent, with 15 fatal accidents and 25 confirmed vessel losses reported. Small fishing vessels continued to account for approximately half the reported marine accidents, while small commercial vessels accounted for a further 12 per cent. Major regulatory reform initiatives were introduced in November 2001 with the passage of the *Canada Shipping Act 2001*. Part of this reform is aimed at improving safety in these areas.
- Accidents involving Canadian-registered aircraft continued to decline in 2002, with eight per cent fewer accidents than in 2001, five fewer fatal accidents and 14 fewer fatalities. Compared with the 1997 – 2001 five-year average, the number of accidents in 2002 declined by 20 per cent. As means of further improving aviation safety levels, Transport Canada is working with the aviation industry through initiatives such as Flight 2005 and the implementation of safety management systems through all sectors of the aviation industry.
- On an annual basis, there are more than 27 million shipments involving dangerous goods. In 2002, almost all these shipments arrived without incident at their destination, with the exception of 580 occurrences. Of this number, only two were caused by the dangerous good itself. The majority of deaths and injuries are caused by the accident or collision rather than contact with the dangerous good. Transport Canada is undertaking research in the area of tanks and pressurized cylinders, and highway tank vehicle safety standards, and it is working toward greater international harmonization.
- During 2002, public confidence in the security of the transportation system was restored to pre-September 2001 levels. Working with government, industry and other stakeholders, Transport Canada introduced new security initiatives in all modes and continued to

implement security enhancements announced in 2001, following the September 11, 2001, terrorist attacks in the United States.

- In 2002, the Canadian Air Transport Security Authority (CATSA) assumed responsibility for key aviation security services, such as pre-board screening at 89 designated airports.
- Transport Canada initiated a number of aviation security enhancements in 2002.
- Transport Canada introduced initiatives to enhance marine security, including the St. Lawrence Seaway and Great Lakes Initiative, aimed at enhancing security screening procedures for ships in these waterways. Transport Canada also implemented enhancements to boarding protocols to improve response to any threats before ships arrive at port.
- Transport Canada, in participation with other government departments, implemented the Canada–U.S. Smart Border Declaration, which includes detailed bi-national workplans to protect shared critical infrastructure.
- In 2002, Transport Canada launched the Chemical Biological Radiological and Nuclear Initiative to secure access to trained industrial emergency response teams.

TRANSPORTATION AND THE ENVIRONMENT

- In 2000, 34 per cent of greenhouse gas (GHG) emissions in Canada came from the transportation sector: 77 per cent from road transportation, 10.3 per cent from aviation, and less than 9.5 per cent from the rail and marine modes combined.
- Over the 1980 – 2001 period, aggregate road gasoline consumption surpassed its 1980 level in 1999 only, despite a significant increase in the vehicle fleet and its use.
- Between 1980 and 2001, road diesel emissions grew by 130 per cent, a situation largely explained by the growth in trucking activities due to freer trade within North America, the shift towards a "just-in-time" environment and the deregulation of trucking activities.
- Over the same period, aviation GHG emissions grew by 26 per cent, most of which occurred in the latter half of the 1990s.
- From 1980 to 2001, rail emissions dropped by about 13 per cent, while traffic grew by more than one-third.
- Marine emissions fell by 18 per cent between 1980 and 2001, due to a contraction in marine traffic.
- Since the baseline year 1998/99, Transport Canada has reduced its GHG emissions by 18 per cent, largely as a result of divestiture.
- On November 21, 2002, the Government of Canada released Canada's Climate Change Plan to meet its Kyoto Protocol emission reduction target. The plan identified 21 megatonnes of potential emission reductions for transportation, which are to come from existing and new measures.
- For transportation, the Plan focuses initially on initiatives to: improve new vehicle fuel efficiency by 25 per cent by 2010; move toward less GHG-intensive fuels; support projects for public transit infrastructure; improve freight transport efficiency; and improve information on climate change impacts on transportation infrastructure.
- Canada ratified the Kyoto Protocol on December 17, 2002.
- The provinces and territories developed action plans to deal with the climate change challenges. These plans have taken various forms, including business plans, discussion papers, actions and initiatives, position papers and reports.
- Since 2000, the Federation of Canadian Municipalities has provided funding for sustainable municipal transportation projects through the Green Municipal Enabling Fund, a fund created by the federal government in its 2000 budget. The fund's focus is not limited to public transit technologies, as it also includes integrated and alternative transportation and transportation demand management.

RAIL TRANSPORTATION

- A total of 290 kilometres of track was discontinued in 2002, including lines in Alberta, Ontario and Saskatchewan.
- A number of transactions slated for 2002 were postponed to 2003: for example, the transfer of the Devco properties to a subsidiary of the Quebec Railway Corporation and the transfer of the assets and operations of the Canadian American, the Quebec Southern and the Bangor & Aroostook railways to the Montreal, Maine & Atlantic Railway.
- Of total rail revenues in 2001, 89.2 per cent were generated by Canadian National (CN), Canadian Pacific Railway (CPR) and VIA Rail.
- Class I railways consumed 1.77 billion litres of fuel in 2001, compared with 1.76 in 1990.
- CN reported a 1.1 per cent increase in tonne-kilometres moved in 2001 over 2000, while CPR's output stayed basically the same.

- In 2002, rail car loadings decreased by 1.9 per cent to 257 million tonnes. In Western Canada, there was a 3.4 per cent drop, while in Eastern Canada the situation remained steady.
- Shipments of grain dropped 24 per cent, coal and coke 13 per cent, iron ore 1.5 per cent and petroleum products 1.3 per cent. Meanwhile, shipments of processed forest products, fertilizer materials, metals, automotive products and chemicals increased.
- Export rail tonnage increased slightly in 2002 to reach 65.2 million tonnes, with forest products, chemicals and fertilizer materials being the largest contributors to such traffic. The largest share of rail export volume to the United States originated in Ontario.
- In 2002, there was a slight decline (3.7 per cent) in import rail tonnage. Automotive products and chemicals remained the top commodities in terms of value, while Ontario was the leader in terms of rail import volumes, accounting for 46 per cent of the total.
- Fort Frances and Sarnia, both in Ontario, accounted for 22 and 17 per cent of rail exported trade, respectively, with forest products, fertilizer materials and chemicals the major commodities exported at these border crossings. In value terms, the leading border crossing points for automotive products were Sarnia, the Windsor Tunnel and Fort Erie, accounting for 75 per cent of the total value. Sarnia was also the leading border crossing point for import tonnage, with 15 per cent of the 2002 volume.
- Class I railways moved 91 million tonnes of goods to and from Canadian ports in 2001, 5.3 per cent less than in 2000.
- British Columbia, Alberta and Saskatchewan were the main originating source of rail–marine exports in 2001. Coal traffic remained steady, while grain exports decreased. Rail–marine imports decreased slightly in 2001, but Quebec and Ontario remained the two major destinations for such traffic. A decrease in fertilizer traffic was offset by an increase in petroleum products.
- Intercity rail passenger traffic increased by 1.4 per cent in 2001. VIA Rail reported a slightly greater increase of 1.8 per cent.
- The productivity of rail freight carriers continued to increase in 2001 but at a slower rate than in previous years.
- VIA Rail's productivity declined in 2001, contravening the positive gains observed in recent years.

ROAD TRANSPORTATION

- In 2002, reforms of regulations governing vehicle weight and dimension were pursued, agreed to or implemented in various jurisdictions.
- Nova Scotia published regulations to bring commercial van and small bus services under a safety regime along the lines of the National Safety Code.
- The Senate Standing Committee on Transport and Communications tabled a report at the end of the year on intercity bus services in Canada that recommended, among other things, a reverse onus entry test, a transitional federal subsidy program for possible service loss for low-density and rural routes and a review after five years of such entry controls.
- Heavy trucks as well as cars crossing the Canada–U.S. border decreased in 2002 as a result of the economic slowdown.
- Trimac Transportation Services topped of the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.
- Trucking firms carrying general freight accounted for 58 per cent of total revenues of large for-hire trucking firms in 2001, while the share of specialized trucking firms continued to increase.
- According to the 2001 Canadian Vehicle Survey, there are 16.8 million light vehicles (i.e. with a gross weight less than 4,500 kilograms) in scope for the survey, consisting of 10.5 million passenger cars and station wagons, 2.4 million vehicles listed as vans, 2.6 million pickup trucks and 1.3 million sport-utility vehicles (SUVs) in Canada.
- Vans, SUVs and light trucks accounted for 42 per cent of vehicle-kilometres in 2001. They were driven on average more than cars and station wagons (19,000 kilometres versus 15,500 kilometres) and had a higher vehicle occupancy ratio (1.7 persons).
- There was an average of 540 vehicles per 1,000 people in Canada in 2001.
- According to the Canadian Vehicle Survey, there were 580,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 330,000 were medium-sized weighing between 4,500 and 15,000 kilograms. Almost 254,000 were Class 8 (heavy) trucks weighing more than 15,000 kilograms.
- Ontario (40 per cent), Alberta (25 per cent) and Quebec (11.5 per cent) accounted for 75 per cent of the heavy truck fleet.

- Heavy trucks accounted for 18.6 billion vehicle-kilometres in 2001, compared with fewer than 6.5 billion for medium-sized trucks. Empty haul movements accounted for 18 per cent of heavy truck vehicle-kilometres, compared with about eight per cent for medium-sized trucks.
- In 2001, domestic and transborder for-hire truck traffic by Canadian firms generated revenues of $7.9 billion and $6.9 billion, respectively, with five groups of commodities accounting for more than 75 per cent of these revenues: manufactured products, food products, forest products, metal and steel products, and automobile/transport products.
- Ontario dominated with 38 per cent of intraprovincial trucking traffic, 34 per cent of interprovincial trucking traffic and 44 per cent of total transborder traffic hauled by trucks. The heaviest traffic flows were between Ontario and the U.S. central region and Ontario and the U.S. southern region, with 17.1 billion tonne-kilometres and 10.5 billion tonne-kilometres, respectively.
- Total factor productivity in the trucking industry declined by 0.5 per cent in 2001.
- Because prices increased on average more than unit costs, the industry's average operating ratio improved in 2001.
- The revenues of urban transit operators also increased by 2.6 per cent in 2001, a situation explained by price increases (3.3 per cent).
- Transit traffic fell in 2001, reversing several consecutive years of growth. Productivity declined by 1.2 per cent.

MARINE TRANSPORTATION

- Canada signed the new International Convention on Civil Liability for Bunker Oil Pollution Damage in 2002. The Convention establishes shipowner liability and a compensation regime for spills of oil carried as fuel in a ship's bunkers.
- In 2002, the International Maritime Organization adopted amendments to the Athens Convention Relating to the Carriage of Passengers and Their Luggage by Sea. These amendments increased the limits of liability for loss of life or personal injury and require shipowners to maintain some insurance or other financial instruments to cover their liability.
- *Marine Liability Act* regulations were enacted in 2002.
- A four-member panel was appointed in May 2002 to carry out consultations as part of the review of the *Canada Marine Act*.
- By year-end, 113 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached $278 million in 2001, up $21 million from 2000, compared with an increase of $7.3 million in expenditures. Vancouver and Belledune reported the largest increases in revenues. Net income of CPA ports increased by $23.1 million in 2001.
- Tonnage handled at CPA ports dropped from 226 million tonnes in 2000 to 219.9 million tonnes in 2001, with Vancouver (33 per cent), Saint John (11 per cent), Sept-Îles (10 per cent) and Montreal (nine per cent) combined accounting for 62 per cent of total cargo handled by CPAs.
- In 2001, CPAs handled 56 per cent of total port traffic.
- At the end of 2002, of the total number of fishing harbours, 654 were managed by harbour authorities and 377 were small craft harbours managed by the Department of Fisheries and Oceans Canada.
- In 2002, only the Great Lakes Pilotage Authority generated a net loss, while the three other Pilotage Authorities posted a positive net income.
- The Canadian Coast Guard's net expenditures in 2002/03 were $459.6 million. The Canadian Coast Guard launched a fleet management renewal initiative in 2002, as well as a review of its fleet requirement to maintain current fleet capacity.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 41.1 million tonnes of traffic in the 2002 season, 1.4 per cent less than in 2001.
- Ferry services carried approximately 40 million passengers and 17 million vehicles in 2002.
- International cruise ship traffic in 2002 increased at the ports of Vancouver, Montreal and Quebec City, but decreased slightly at Halifax and Saint John.
- Domestic cargo loaded and unloaded at Canadian ports fell to 106.4 million tonnes in 2001, a 2.4 per cent drop from 2000.
- A total of 286.6 million tonnes of international cargo was handled at Canadian ports, 2.4 per cent less than in 2000. Of that total, 108 million tonnes were related to Canada's marine traffic to and from the United States, down slightly from 2000, while 179 million tonnes had to do with Canada's marine trade with overseas countries (excluding the United States).
- The value of Canadian international marine trade in 2001 was $98.3 billion, excluding shipments via U.S. ports.

AIR TRANSPORTATION

- The January 2003 report issued by the Air Travel Complaints Commissioner for the period January 2002 to June 2002, showed a slightly lower number of complaints than earlier reports for a similar period.
- A comprehensive review of the federal government rent policy for leased airports in the National Airports System was announced and is being conducted at the same time the proposed *Canada Airports Act* is developed.
- In June 2002, the adoption of Bill C-23 gave the Competition Tribunal the power to extend the duration of cease and desist orders issued by the Commissioner of Competition and was used to stop a potentially anti-competitive activity prior to a final decision on its legitimacy.
- A pilot project to test the Electronic Collection and Dissemination of Air Transportation Statistics involving six Canadian airports and five Canadian air carriers was launched in 2002. The project also involved Statistics Canada and the Canadian Transportation Agency.
- The issuance of payments totalling more than $99 million were completed in May 2002 to Canadian air carriers and specialty air operators for losses resulting from the closure of Canada's airspace following the September 11, 2001, terrorist attacks.
- Since September 22, 2001, when international insurers withdrew their previous level of coverage, the federal government has provided short-term indemnification for third-party war and terrorism liabilities, renewing it for periods of 60 days until an international longer-term solution is developed.
- In November 2002, the Government of Quebec came to a three-year agreement with Air Canada for reduced fares for non-government users of air transportation services on 15 regional routes.
- In April 2002, the Government of Yukon adopted an air travel policy requiring equal purchases across competing airlines providing year-round services.
- The Minister of Transport announced a new multiple designation policy in May 2002, allowing all carriers to apply to operate scheduled international air services to any market, regardless of market size.
- Amendments and expanded air services opportunities were obtained in 2002 through bilateral air transport agreements with Italy, the Czech Republic, Switzerland and Hong Kong.
- Of the 1,722 certified or regulated aerodrome sites in Canada, 263 land airports offered scheduled passenger services, with an additional 847 sites available for other public and private uses.
- In 2002, at 40 airports, the Airports Capital Assistance Program funded 52 projects related to safety, asset protection and operating cost reduction.
- Despite a gradual improvement in air traffic during the second half of fiscal year 2001/02, the overall reduction in air traffic contributed to an estimated $145 million shortfall in NAV CANADA.
- Air Canada, with its subsidiaries, remained Canada's largest airline in 2002, with $9.8 billion in revenues and serving 66 points in Canada, 55 in the United States and 30 international destinations in 23 countries. It has three wholly owned subsidiaries: Air Canada Jazz, Zip Air and Air Canada Vacations. It offers no-frills services under the brand name Tango and premium charter service to sport teams and businesses under Jetz. Four independent local service operators offered regional services on behalf of Air Canada: Air Creebec, Air Georgian, Air Labrador and Central Mountain Air.
- Low-cost, no-frills carriers offering domestic and transborder services in 2002 included WestJet, CanJet and Jetsgo.
- The list of Canadian charter airlines providing services both domestically and internationally in 2002 included Air Transat, SkyService Airlines, HMY Airways, which was added to the list in November, and Zoom Airlines, which was added in December.
- Airlines providing year-round scheduled and charter services across Northern Canada included First Air, Canadian North and Air North. Canadian North had code-share relationships with Kenn Borek Air and North-Wright Airways.
- Twelve U.S. airlines served 17 Canadian cities, and 30 foreign airlines provided services from Canada to 39 international destinations in 28 countries.
- All-cargo airlines in service in 2002 included All-Canada Express, ICC Air Cargo, Kelowna Flightcraft, Morningstar Air Express, and a new entrant, Cargojet Canada.
- At the end of 2002, more than 2,000 airline licences were active, an indicator of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2002, mainly as a result of fractional ownership.
- In 2001, the total revenues generated by the air transport industry dropped by 8.4 per cent, the first drop since 1993. The 3.9 per cent average reduction air service prices was not enough to stimulate overall demand, which decreased by 3.6 per cent.

- Productivity gains of 5.3 per cent were offset by large factor price increases, most notably labour, leading to a 1.5 per cent increase in unit costs in 2001. The year 2001 was a difficult year. Air Canada reported $1.3 billion in losses, Canada 3000 ceased operations and Air Transat had to restructure its operations. Difficulties were also encountered in 2002, with Air Canada reporting losses of $428 million.
- Canada's air trade with countries other than the United States declined in 2002, from $39.9 billion to $38.7 billion.
- Air passenger traffic fell from a peak of 60 million passengers in 2000 to an estimated 55 million passengers in 2002. Transborder was the most severely affected market, with a 13 per cent decrease between 2000 and 2002.

INTRODUCTION

1

From the most current information available, the state of transportation in Canada is presented in the 2002 Annual Report.

The *Canada Transportation Act* (1996) has placed a statutory responsibility on the Minister of Transport to table every year an annual report on the state of transportation in Canada. The mandate delimiting the responsibility is defined in Section 52 of the Act:

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

(a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;

(b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expenses;

(c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and

(d) any other transportation matters the Minister considers appropriate."

This 2002 annual report is the seventh submitted by the Minister since the coming into force of the *Canada Transportation Act*. This report presents an overview of transportation in Canada, limited only by the availability of relevant data but nevertheless using the most current data and information available. When 2002 data was available, the review for that year is reported; otherwise, this report reflects the most recent year for which data was available. The scope is not limited to federal transportation responsibilities, providing by the same token a unique comprehensiveness despite its limited coverage of urban and intermodal transportation matters.

In recent years, an addendum to the report was posted on Transport Canada's Web site to provide more detailed information on subject matters covered in the overview of transportation in Canada. Last year, for instance, an addendum covering government spending on transportation and transportation employment was accessible on the Internet. This year, a serious attempt was made to produce a more succinct review of the state of transportation in Canada. Maintaining the same coverage as in previous years' reports was achieved by making a more extensive use of an addendum. Readers interested in more detailed and/or time series information should consult the Addendum at www.tc.gc.ca. Individual references to the Addendum are found either in the text per se or in footnotes to the text or to tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in the report per se or found in tables in the Addendum. In addition, all previous years' annual reports are easily accessible on Transport Canada's Web site at www.tc.gc.ca.

Transportation is omnipresent in Canadians' lives. Transportation opens markets to natural resources, agricultural products and manufactured goods, it supports service industries, and it alleviates the challenges delimited by topography. Transportation also links communities and reduces the effects of distances separating people from each other. As simple as these implied and oversimplified roles of transportation are, the intertwined and interdependent relationships between transportation and the economic and social fabrics of our society are complex — this is because these roles are diverse and comprise many separate evolving circumstances and conditions delimiting needs.

1 INTRODUCTION

The fluctuations in economic activities occurring either at the regional or at the sectoral level have a definite impact on the state of transportation. This is because the demand for transportation services is derived from the needs emanating from all sectors of the economy. This in turn explains why this year's report again begins by reviewing at a macro level the performance of the Canadian economy (Chapter 2). The information behind the employment, trade and tourism chapters in last year's report has been placed in the Addendum. Detailed information on transportation energy consumption is also accessible in the Addendum.

Chapter 3 presents the most recent information on government transportation spending and revenues. This chapter addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific transportation system infrastructure assets. Although the private sector also makes expenditures on and investments in Canada's transportation system, these are not covered in this chapter. The reader must keep in mind that the public sector does not plan nor fully control all such expenditures and investments.

Chapter 4 reviews safety and security in the transportation system. Safe transportation operations remain a fundamental priority of the Canadian transportation system. This chapter reviews the most recent accidents and incidents statistics by mode to provide an up-to-date overview. The events of September 11, 2001, have led to more emphasis being placed on enhancing the security of the transportation system, and this chapter presents an overview of initiatives launched to achieve this goal.

Chapter 5, a review of transportation and the environment, devotes special attention to climate change. With Canada's commitment to the Kyoto Protocol to the United Nations Framework Convention on Climate Change, an overview of the initial elements of Canada's proposed response to climate change is presented. This chapter also reviews the other environmental challenges associated with transportation activities.

Chapters 6 to 9 give the most recent information on transportation, but this information is structured differently than it was in recent years' reports. The fundamental difference is a modal presentation of the information. For rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9), the coverage is structured as special events in 2002, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation has been regrouped in Chapter 7, with coverage of the same subject matters as found in the three modal chapters.

Most of the data used and presented in this report or in the Addendum came from sources external to Transport Canada. The onus for data validation rests with the external sources. Proper care and attention to data quality and limitations was devoted during the production of this report, and footnotes are used where needed to flag issues. Within the constraints of the statutory deadlines under which the report was produced, serious attempts to address data-related issues were made. When data accuracy was confirmed by the source(s) used, the challenge to data quality was stopped. This report does not attempt to circumvent data limitations by estimating, nor does it attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY

2

After a slowdown in 2001, the Canadian economy returned to real growth mode in 2002.

CANADIAN ECONOMIC PERFORMANCE

In 2002, the Canadian economy surprised many people by recovering from the 2001 slowdown and posting real growth in gross domestic product (GDP) at market prices of 3.4 per cent. Economic growth was very strong in the first quarter of the year, as real GDP grew at six per cent (at annual rates), but slowed over the year to grow at only 1.6 per cent in the final quarter. The annual growth rate was one per cent higher than real GDP growth in the United States. Economic growth in Canada was driven by strong exports and consumer expenditures, especially for housing and automobiles, while business investment remained weak. Industrial capacity utilization rose to 83.3 per cent in the third quarter of 2002, up from the low of 80.0 per cent in the last quarter of 2001.

Consumer spending on motor vehicles rose 7.1 per cent in 2002. Sales of new motor vehicles reached a new record of 1,733,318 vehicles, as purchasers responded to incentives and low interest rates. Other consumer expenditures were not as strong, as overall consumer expenditures rose 2.9 per cent. U.S. demand for Canadian automobile products was a major reason behind strong exports, particularly in the third quarter. For the year as a whole, total exports rose 0.8 per cent in real terms. Investment in residential structures rose 16 per cent, as consumers took advantage of low interest rates. For the first time since 1989, the number of new dwelling units built exceeded 200,000. Business investment in non-residential structures fell 3.9 per cent, while investment in machinery and equipment fell 2.4 per cent. Government spending on goods and services rose two per cent, while government capital spending increased 8.7 per cent.

Table 2-1 examines general economic indicators in Canada for 2002.

TABLE 2-1: GENERAL ECONOMIC INDICATORS, 2002

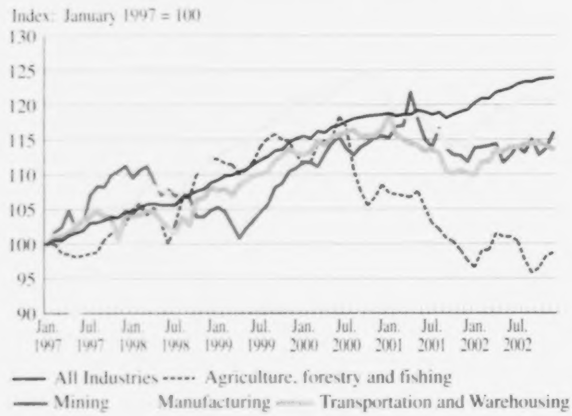
	2002	*Percentage change 2001 - 2002*	*Annual percentage change 1996 - 2001*
GDP at Basic Prices			
(Millions of constant 1997 dollars)			
Total Economy	977,620	3.1	3.9
Goods	301,307	1.5	3.2
Agriculture	12,303	(7.2)	0.6
Forestry	5,660	(1.3)	1.7
Mining	36,488	(1.5)	2.4
Manufacturing	164,749	2.4	3.8
Construction	52,073	3.4	4.3
Services	676,313	3.8	4.2
Retail trade	55,527	6.0	3.8
Transportation and warehousing	44,516	0.0	2.8
Merchandise Trade			
(Millions of dollars)			
Exports	410,330	(1.0)	8.2
Imports	356,109	1.6	8.1
Income (Dollars)			
Personal Disposable Income per capita	22,151	3.5	3.8
Canadian Dollar			
(US cents per unit)	63.7	(1.4)	(2.5)
Employment (Thousands)	15,412	2.2	2.3
Population (Thousands)	31,414	1.0	1.0
Prices			
Total Economy (1997 = 100)	107.5	1.1	1.5
Consumer Price Index (1992 = 100)			
All Items	119.0	2.2	1.9
Transportation	134.4	2.8	2.1

Source: Statistics Canada Cat. 11-010, 13-001, 15-001, 62-010; Bank of Canada

In terms of industry GDP, the goods producing sector in 2002 grew 1.5 per cent in real terms, while the service sector grew 3.8 per cent. This growth was derived mainly from the automobile sector, which grew 5.3 per cent, and the housing sector. The building of new houses was behind the 3.4 per cent increase in the construction industry. Manufacturers of wood products, paint, appliances and furniture that support new home construction were also strong. Manufacturing as a whole grew 2.4 per cent in 2002. The primary industries had weak performances, as mining and forestry fell 1.5 and 1.3 per cent, respectively, while agriculture dropped 7.2 per cent. Transportation and warehousing GDP did not show any growth over 2001.

Figure 2-1 charts the changes in real GDP since 1997.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 1997 – 2002

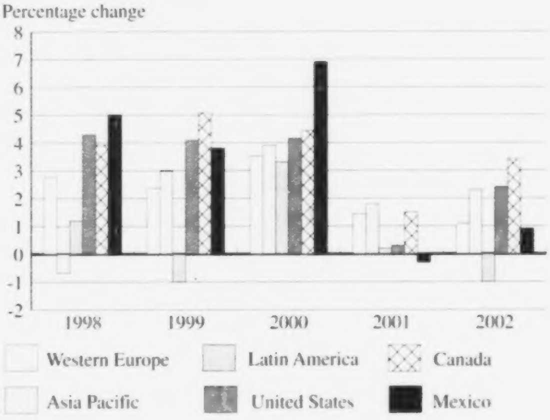


Source: Statistics Canada, Cat. 15-001

Figure 2-2 shows that the world economy generally did better in 2002 than in 2001. Real GDP growth in the United States was 2.4 per cent in 2002, two per cent greater than in 2001 but one per cent less than in Canada. As in Canada, U.S. consumers provided support for the economy, particularly in the purchases of houses and automobiles. Mexico had weak growth of 0.9 per cent, reflecting slow export sales, particularly to the United States. Latin America showed negative growth in 2002, as the region was affected by difficulties in Argentina, Venezuela and, to a lesser extent, Brazil. Western Europe had real economic growth of only 1.1 per cent, down about 0.5 per cent from 2001. The Euro-zone suffered because monetary policy was not eased, while the United Kingdom had somewhat better growth than the other large economies. The Asia-Pacific region grew 2.3 per cent, up 0.5 per cent from 2001. This growth was achieved despite the slightly negative growth of Japan, the world's second largest economy.

Canadian exports fell in 2002 by one per cent, while imports rose by 1.6 per cent. This reduced Canada's trade surplus by $9.8 billion. Exports to all Canada's major trading partners decreased, with the largest drop being to the European Union. Imports increased from all regions other than the United States.

FIGURE 2-2: REAL GDP OF CANADA AND OTHER REGIONS, 1998 – 2002



Note: GDP at market prices.

Source: Global Insight

The Canadian dollar rose in the first six months of 2002 from US$0.62 to US$0.66 at the end of June before falling back to below US$0.63 in October and then strengthening slightly to finish the year at US$0.663. Overall, the average value of the Canadian dollar fell 2.5 per cent from 2001. Prices in the total economy, as measured by the GDP deflator, rose 1.1 per cent, almost unchanged from the one per cent increase in 2001. The average all-items Consumer Price Index (CPI) rose 2.2 per cent in 2002, compared with the 2.6 per cent increase in 2001. Consumers paid an average two per cent less for energy in 2002, after 3.3 and 16.2 per cent average increases in 2001 and 2000, respectively. Consumers paid 2.8 per cent more for transportation, reflecting a 13.2 per cent increase in insurance premiums and an eight per cent increase in air travel costs.

Real disposable income per capita rose 1.5 per cent in 2002, unchanged from the increase in 2001 but below the 2.7 per cent increase of the previous three years.

In 2002, for the second year in a row, Canada's mid-year population rose by one per cent, to reach 31.4 million.

PROVINCIAL ECONOMIC PERFORMANCE

In 2002, all provinces except Alberta experienced higher growth than in 2001. With strong oil production and two significant construction projects, the Newfoundland and Labrador economy had the highest economic growth among the provinces. Nova Scotia and New Brunswick benefited from energy development, while Prince Edward Island benefited from agricultural and manufacturing activity. In Ontario and Quebec, continued strong consumer spending along with growth in exports meant a recovering manufacturing sector. In both provinces, housing construction boomed. Manitoba's well-diversified economy enjoyed strong growth, while dismal agriculture production meant weak economic growth for Saskatchewan. Moderate activity in the oil production industry and a slow agriculture sector were the causes of relatively weak economic growth in Alberta. British Columbia was much improved in 2002 but the province suffered from a weak forestry sector affected by the softwood tariff.

Table 2-2 shows economic growth in the provinces for 2001/02.

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2001/02

(GDP at basic prices in 1997 dollars)

	Percentage Change 2000/01[1]	*Percentage Change 1996/97*
Newfoundland and Labrador	8.4	4.3
Prince Edward Island	4.7	2.3
Nova Scotia	3.0	3.3
New Brunswick	3.1	2.7
Quebec	3.4	3.6
Ontario	3.5	4.5
Manitoba	2.5	3.0
Saskatchewan	-1.1	2.3
Alberta	0.3	4.6
British Columbia	2.5	2.5

1 Forecast.

Source: Statistics Canada, Conference Board of Canada

URBANIZATION AND TRAVEL TO WORK[1]

As urbanization continues to increase in Canada, more and more commuters in urban areas are changing the way they get to work.

The 2001 Census shows that 79.4 per cent of Canadians lived in urban centres with a population of 10,000 people or more, an increase from 78.5 per cent in 1996. The number of people living in Canada's 27 census metropolitan areas (CMAs) rose to 19.3 million, or 64 per cent of the total population, up from 63 per cent in 1996. Growth was concentrated in the four major urban areas of Ontario's Golden Horseshoe, the Montreal area, British Columbia's Lower Mainland and the Calgary–Edmonton corridor. The number of people living in these areas rose 7.6 per cent from 1996 to 2001, compared with a 0.5 per cent increase in the rest of Canada, and made up 51 per cent of the total population. Within CMAs, growth from 1996 to 2001 has been faster in the surrounding municipalities (8.5 per cent) than in the core municipalities (4.3 per cent).

As Table 2-3 shows, the number of people whose usual place of work was located in CMAs was 7.9 million, up 460,000 from 1996 and 1.5 million from 1981. Within CMAs, the number of people who worked in the surrounding municipalities grew by 63 per cent from 1996 to 2001, while the number who worked in the core areas grew only 8.3 per cent. The total number of jobs in the surrounding municipalities rose from 29 to 38 per cent, while the number in the core municipalities fell from 71 to 62 per cent. This shift was most pronounced in Toronto and Vancouver, both of which had a 17 per cent shift.

Figure 2-3 shows the changing commuting patterns within CMAs. From 1981 to 2001, the number of workers who commuted within the core fell 10 per cent, while commutes within a suburban municipality, between a core and the surrounding municipalities, and between surrounding municipalities all rose. The Census data also showed 245,000 more people working in CMAs than living in those areas. For Toronto, seven per cent of its workforce (162,000) lives outside its CMA boundary.

---

[1] Data in this section is taken from Statistics Canada Census 2001 publication *Where Canadians work and how they get there*. Catalogue 96F0030XIE2002010.

TABLE 2-3: WORKERS IN THE CORE AND SUBURBS, TOP FIVE CENSUS METROPOLITAN AREAS, 2001

				Percentage change from 1981		
	In CMA	*In core*	*In suburbs*	*In CMA*	*In core*	*In suburbs*
Toronto	2,006,150	1,178,605	827,550	29.4	0.2	121.1
Montreal	1,437,645	626,800	810,850	16.2	1.4	30.9
Vancouver	790,850	284,420	506,430	51.4	3.0	105.8
Ottawa–Hull	480,500	337,885	87,610	40.5	20.8	40.3
Calgary	428,335	414,235	14,100	35.8	33.9	138.8
All CMAs	7,929,555	4,886,205	2,988,359	24.0	7.1	63.3

Source: Statistics Canada Census 2001

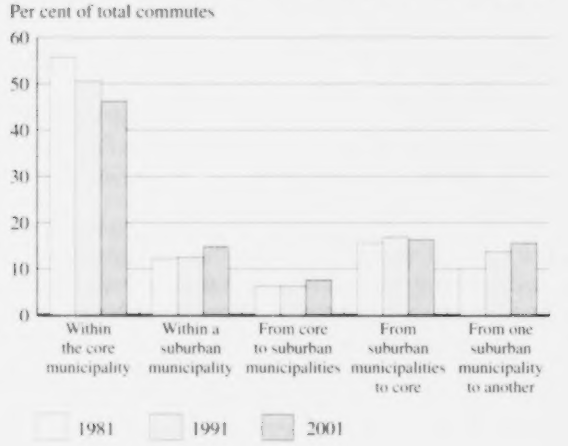
TABLE 2-4: WORKERS' USUAL MODE OF TRANSPORTATION TO WORK IN THE TOP FIVE CENSUS METROPOLITAN AREAS, 2001

	All modes transportation	*Driver*	*Passenger*	*Public*	*Walk*	*Bicycle*	*Other*
	Number of workers	*Per cent*					
Toronto	2,248,055	65.2	6.3	22.4	4.6	0.9	0.6
Montreal	1,580,270	65.6	4.8	21.7	5.9	1.4	0.6
Vancouver[1]	905,995	72.2	7.0	11.5	6.5	1.1	1.7
Ottawa–Hull	525,070	64.6	7.4	18.5	6.8	1.1	1.6
Calgary	499,050	71.8	6.8	13.2	5.9	1.6	0.7
All CMAs	9,119,770	70.8	6.6	14.8	5.7	1.3	0.8
Canada	13,450,855	73.8	6.9	10.5	6.6	1.2	1.0

[1] A bus strike in 2001 may explain the low public transit usage in Vancouver.

Source: Statistics Canada Census 2001

FIGURE 2-3: TYPE OF COMMUTE TO WORK IN ALL CENSUS METROPOLITAN AREAS, 1981, 1991 AND 2001



Source: Statistics Canada Census 2001

The distance that Canadians travel to work increased to 7.2 kilometres in 2001, up from seven kilometres in 1996. The proportion of people who travel more than 25 kilometres was 13 per cent, about the same as in 1996. CMAs with the three greatest median commuting distances were in the Golden Horseshoe: Oshawa (10.7 kilometres), Toronto (9.2 kilometres) and Hamilton (8.2 kilometres). The two CMAs with the next greatest median commuting distances were Montreal (7.9 kilometres) and Ottawa–Hull (7.8 kilometres).

As Table 2-4 shows, the automobile continues to be Canadians' most common form of transportation to work. In 2001, 13.5 million Canadians commuted to work, up 10.6 per cent from 1996. Of these commuters, 9.2 million went to work in CMAs, a 14 per cent increase from 1996. In 2001, 70.8 per cent of all commuters in CMAs drove a motor vehicle to work, 6.6 per cent went to work as passengers, 14.8 used public transportation, 5.7 per cent walked and 1.3 rode a bike. These percentages are generally unchanged from 1996, although the number of drivers increased by just 0.5 per cent at the expense of the number of passengers. The largest metropolitan centres had the highest proportion of people using public transportation and the lowest proportion of people driving to work. In Toronto, the number of people using public transportation fell by about 0.5 a per cent since 1996, while in Montreal it rose by about 1.5 per cent.

INTERNATIONAL TRADE[2] AND TRADE FLOWS

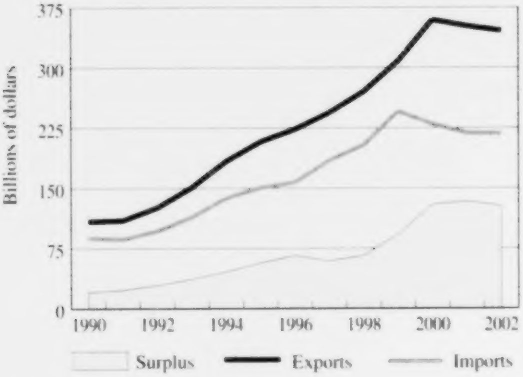
At the end of 2002, Canada's trade surplus with the rest of the world fell to its lowest level since 1999, as exports of merchandise fell and imports rose.

TRADE WITH THE UNITED STATES

In 2002, the United States was by far Canada's most important trading partner, capturing 76 per cent (in value) of Canada's total trade with the world (70 per cent in 1991). Canada's exports to the United States represented more than 87 per cent of Canada's total exports to the world (75 per cent in 1991). By contrast, Canada's imports from the United States oscillated between 63 and 68 per cent of total imports from the world during the period 1990 – 2002. As a result, Canada's annual surplus with the United States has enjoyed an annual average growth of 17 per cent since 1991.

Figure 2-4 tracks the value of trade with the United States from 1990 to 2002.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1990 – 2002



Note: Customs-based trade data; Preliminary data for 2002.

Source: *Transport Canada, adapted from Statistics Canada, International Trade database*

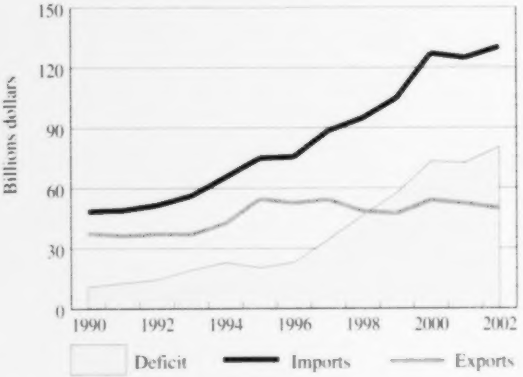
In 2002, Canada's trade with the United States totalled $564 billion. Trucks carried almost 66 per cent of this trade ($1.5 billion on a daily basis), followed by rail (17 per cent), pipeline, air and marine. Trucking was the dominant mode for exports (57 per cent) and for imports (80 per cent). By volume, pipelines ranked first, at 32 per cent (mainly in exports), followed by trucks (29 per cent) and marine (20 per cent).

The most important trade flow between Canada and the United States involved Ontario and the U.S. Central East Region (bordering the Great Lakes area), totalling $168 billion. Four of the top six Canada–U.S. trade flows involved Ontario. Nearly 80 per cent of the Canada–U.S. trade carried by trucks (value) was concentrated at six border crossing points: Windsor/Ambassador bridge, Fort Erie/Niagara Falls, Sarnia and Lansdowne in Ontario, Lacolle in Quebec and Pacific Highway in British Columbia.

TRADE WITH OTHER COUNTRIES

Canada's trade with other countries totalled $180 billion in 2002. This trade registered a deficit in 2002, as imports from other countries generally exceeded Canada's exports to these countries. As Figure 2-5 shows, trade deficits have grown at an annual average rate of 18 per cent since 1991.

FIGURE 2-5: VALUE OF GOODS TRADED BETWEEN CANADA AND COUNTRIES OTHER THAN THE UNITED STATES, 1990 – 2002



Note: Customs-based trade data; Preliminary data for 2002.

Source: *Transport Canada, adapted from Statistics Canada, International Trade database*

In terms of value as of volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with the oversea countries. In 2002, six trade flows accounted for nearly 75 per cent of Canada's total trade with countries other than the United States. Four of these were two-way flows between eastern provinces and Europe ($14 billion in exports, $41 billion in imports) and between western provinces and the Pacific Rim countries ($13 billion in exports, $18 billion in imports). The other two-way flows were import-oriented, moving to eastern provinces from the Pacific Rim countries ($33 billion) and Mexico ($11 billion).

---

[2] Customs-based trade statistics are used in the present report, as detailed information on commodity, modes of transport and geographic region is presented on a Customs basis only.

For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

TOURISM

In 2001, tourism expenditures in Canada were $51.7 billion, down 0.2 per cent from 2000. Tourism expenditures on transportation were down 4.3 per cent to $19.7 billion, due to an 8.1 per cent drop in expenditures on air travel. This decline continued in the first nine months of 2002, as total tourism expenditures were $38.1 billion, 3.2 per cent less than in the first nine months of 2001.

Domestic travel[3] fell in 2001, as 144.2 million trips were taken in Canada, down 11 per cent from the 162.2 million trips taken in 2000. All types of domestic travel, interprovincial and intraprovincial as well as both same day and overnight, fell. Domestic travel by all modes also fell, except for a 28 per cent increase in same-day travel by rail.

As Table 2-5 shows, international travel, both to and from Canada, dropped in 2002 by 6.9 per cent. Trips by Canadians to the United States fell 9.9 per cent, although overnight trips rose 1.3 per cent. Trips by non-residents to Canada fell six per cent, although overnight trips by Americans rose 7.3 per cent. (For more details on tourist travel, see tables A2-10 to A2-20 in the Addendum.)

TABLE 2-5: INTERNATIONAL TRAVEL, 2002

	2002	*Percentage change from 2001*
Trips by Canadians	39,239,189	(9.2)
To United States	34,558,922	(9.9)
Automobile	28,544,214	(9.8)
Same day	20,853,331	(13.3)
Overnight	7,690,883	1.3
To all other countries	4,680,267	(3.1)
Trips by non-residents	44,896,260	(4.8)
by U.S. residents	40,878,172	(4.6)
Automobile	33,423,832	(5.1)
Same day	22,816,650	(9.9)
Overnight	10,607,182	7.3
Trips by all other non-residents	4,018,088	(6.0)
Total international trips	84,135,449	(6.9)

Source: Statistics Canada, Cat. 66-001

EMPLOYMENT

In 2002, total employment in Canada rose by 2.2 per cent with the creation of 335,000 jobs. Over the last five years, the number of full-time jobs related to transportation totalled more than 800,000. Preliminary figures for 2002 do not allow us to assess whether total employment in the transport sector followed the national trend. The air transport industry was severely affected by the economic slowdown and the terrorist attacks, and showed no signs of recovery in 2002; air transport-related employment decreased by 7.2 per cent. No conclusion could be drawn from the available data for the other transportation sectors.

For detailed times series on employment and salaries, see tables A2-21 to A2-47 in the Addendum.

ENERGY CONSUMPTION

Total energy consumption in the Canadian economy decreased by 0.4 per cent between 2000 and 2001. Energy demand by the transportation sector, which accounts for 34 per cent of this total, decreased by one per cent. The only growth in energy use occurred in road transportation (0.4 per cent) and the marine sector, including fisheries (7.9 per cent). At the other end of the spectrum, fuel consumption decreased by 9.2 per cent in the aviation sector and by 8.6 per cent in the pipeline industry. For detailed information on energy usage in the transportation sector, see tables A2-48 to A2-60 in the Addendum.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

After a period of robust annual productivity growth in the first half of the 1990s, productivity increases in selected transport industries (rail, air and trucking) slowed during the second half of the decade to 1.6 per cent per year. Productivity growth in 2001 was higher at 1.9 per cent.

Transport prices were affected by these trends. In both periods, transport prices fell in real terms. However, the reduction was far more pronounced in the first half of the 1990s when they fell by 2.3 per cent annually. The price patterns were especially altered in 2000 as a result of the spike in fuel oil prices. In 2001, transport prices returned to increases below the inflation rate.

---

[3] Domestic travel refers to trips at least 80 kilometres from a traveller's usual place of residence, excluding trips to or from work or school.

Lower transport prices and a strong trade sector in the first half of the 1990s led to transport activity doubling the growth of the economy over this period. From 1996 to 2001, the growth of transport output slowed down but remained above that of the economy. For more information on the productivity and price performance of the transport sector, see tables A2-61 to A2-64 in the Addendum.

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates[4] of output are available for transportation services that are offered on a commercial or for-hire basis. Such estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

Commercial transportation industries in Canada accounted for $39 billion in 2002, or four per cent of the value-added GDP. Trucking is the most important industry, accounting for $11.9 billion, or 1.2 per cent of the total output. The air and rail transportation industries accounted for $4.3 billion (0.4 per cent of total output) and $4.7 billion (0.5 per cent), respectively.

Table 2-6 compares the contribution of the different modes of transportation to Canada's GDP in 2002.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP, 2002

	Millions of constant 1997 dollars[1]	*Per cent of GDP*
Industries		
Air	4,310.3	0.4
Rail	4,696.5	0.5
Water	1,120.2	0.1
Truck	11,948.5	1.2
Urban transit systems	2,900.4	0.3
Interurban and rural bus	179.1	0.0
Miscellaneous ground passenger transportation	1,926.7	0.2
Other transportation[2]	11,914.7	1.2
Transportation Industries	38,853.0	4.0

1 GDP at basic prices.

2 Includes scenic and sightseeing, postal and courier services, as well as support activities for other modes of transportation such baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

TRANSPORTATION-RELATED DEMAND

The total of all transportation expenditures for the final demand of goods accounted for 14.1 per cent of expenditures in Canada's economy in 2002. Personal expenditures on transportation represented the largest part of transportation-related demand, accounting for 8.8 per cent of GDP. In 2002, these expenditures grew by 5.2 per cent, reflecting a 7.5 per cent increase in the purchases of motor vehicles. Transportation equipment purchases, mostly motor vehicles, made up 4.2 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.6 per cent. Personal expenditures on commercial transportation made up 1.1 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-65 in the Addendum.

Investment in transportation made up 3.3 per cent of the GDP in 2002. Business investment in transportation equipment made up the largest part of this and accounted for 2.3 per cent of the GDP. In 2002, business transportation investment rose by 29.2 per cent, reflecting a swing in automotive inventories from a drop of $3 billion in 2001 to an increase of $2.6 billion. Expenditures on roads made up 87 per cent of government spending on transportation and accounted for 0.6 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Automotive trade dominated transportation exports and imports. Exports of automotive equipment, including parts, accounted for 8.5 per cent of the GDP, while imports accounted for 7.1 per cent in 2002. Automotive exports rose 4.5 per cent in 2002, while automotive imports rose 12.3 per cent. Exports and imports of transportation services each accounted for about one per cent of the GDP.

Transportation-related domestic demand made up 13.6 per cent of final domestic demand in 2002. This percentage is lower than for the GDP, reflecting the importance of automotive products to Canada's external trade.

Table 2-7 breaks down transportation demand as a proportion of GDP.

---

4 A value-added measure of output is referred to as net output. It is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

TABLE 2-7: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2002

	Millions of dollars 2002	*Per cent of GDP 2002*	*Per cent Annual Growth 2001 – 2002*	*Per cent Annual Growth 1996 – 2001*
Personal Expenditures on Transportation	**100,763**	**8.8**	**5.2**	**6.3**
New and Used Transportation Equipment	47,723	4.2	7.5	8.0
Repair and Maintenance Expenditures	13,137	1.2	6.1	4.3
Transportation Fuels and Lubricants	20,494	1.8	3.1	5.9
Other Motor Vehicle-Related Equipment	6,713	0.6	2.9	4.1
Purchased Commercial Transportation	12,696	1.1	0.4	4.8
Investment in Transportation	**37,898**	**3.3**	**24.5**	**N/A**
Business Investment in Transportation	29,847	2.6	29.2	N/A
Transportation Infrastructure (roads and railways)	1,252	0.1	5.6	0.3
Transportation Equipment	25,964	2.3	3.2	16.4
Inventories	2,631	0.2	(181.0)	N/A
Government Investment in Transportation	8,051	0.7	9.9	2.9
Transportation Infrastructure (roads)	6,998	0.6	6.8	2.6
Transportation Equipment	1,053	0.1	35.5	5.9
Government Spending on Transportation[1]	**12,333**	**1.1**	**(8.3)**	**(2.0)**
Road Maintenance	7,614	0.7	5.6	5.3
Urban Transit Subsidies	2,354	0.2	(3.9)	2.8
Other Spending	2,365	0.2	(23.8)	(5.9)
Exports	**108,041**	**9.5**	**4.5**	**7.7**
Automotive Products	97,081	8.5	4.5	7.9
Commercial Transportation	10,960	1.0	4.2	5.9
Imports	**95,777**	**8.4**	**10.4**	**7.1**
Automotive Products	81,446	7.1	12.3	7.3
Commercial Transportation	14,331	1.3	0.9	6.1
Total Transport-Related Final Demand	**161,185**	**14.1**	**5.0**	**N/A**
Gross Domestic Product at Market Prices	**1,142,123**	**100.0**	**4.6**	**5.5**
Transportation-Related Domestic Demand	148,133	13.6	4.4	N/A
Final Domestic Demand	**1,092,106**	**100.0**	**4.8**	**5.4**

1 2001 figures; growth rates over previous year are growth rates over 2000.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

IMPORTANCE OF COMMERCIAL TRANSPORTATION TO PROVINCIAL/ TERRITORIAL ECONOMIES

COMMERCIAL TRANSPORTATION

Table 2-8 shows the importance of commercial transportation to provincial and territorial GDP. For the Canadian economy as a whole, commercial transportation accounted for four per cent of value-added GDP. It was most important to Manitoba, British Columbia and New Brunswick. Most of the commercial transportation activity took place in Ontario and Quebec, which together account for almost 59 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia accounted for almost 30 per cent.

TABLE 2-8: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP BY PROVINCE AND TERRITORY, 2001

	Millions of constant 1997 dollars	*Per cent of Total Canadian Commercial Transportation*	*Per cent of Total Provincial/ Territorial GDP*
Newfoundland and Labrador[1]	464.7	1.0	4.1
Prince Edward Island[1]	73.0	0.2	2.6
Nova Scotia[1,2]	919.0	2.1	4.4
New Brunswick[1,2]	957.0	2.1	5.4
Quebec	9,155.5	20.6	4.4
Ontario	15,700.3	35.3	3.6
Manitoba[1]	2,057.1	4.6	6.1
Saskatchewan	1,694.8	3.8	3.4
Alberta	6,550.0	14.7	4.1
British Columbia	6,753.6	15.2	5.1
Territories[1]	206.5	0.5	4.4
Canada	**44,531.5**	**100.0**	**4.0**

Note: GDP at basic prices.

1 Includes warehousing.

2 Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

PROVINCIAL AND TERRITORIAL PERSONAL TRANSPORTATION SPENDING

In 2001, Canadians spent $95.8 billion on personal transportation. Of this total, Ontario residents spent 41 per cent, Quebec residents 23 per cent, British Columbia residents 13 per cent, and Alberta residents 10 per cent.

On a per capita basis, Yukon residents spent the most on transportation, an average of $3,781 in 2001, while Nunavut residents spent the least, only $1,031. Of the other provinces and territories, only Ontario, Alberta and British Columbia residents spent more than the national average of $3,080.

On average, 15.4 per cent of total personal expenditures by Canadians in 2001 had to do with transportation. Personal transportation spending in the Yukon accounted for 16.5 per cent of total personal spending, the highest proportion of any province or territory.

Personal expenditures on transportation represented 9.2 per cent of final domestic demand in Canada in 2001. It made up over nine per cent in New Brunswick, Quebec and Ontario, but only 7.1 per cent in the Yukon, 3.5 per cent in the Northwest Territories and 2.1 per cent in Nunavut.

Table 2-9 shows personal expenditures on transportation by province and territory in 2001.

TABLE 2-9: PERSONAL EXPENDITURES ON TRANSPORTATION IN THE PROVINCES AND TERRITORIES, 2001

	Millions of Dollars	*Per capita Dollars*	*Per cent of Total Provincial Personal Expenditures*	*Per cent of Total Canadian Personal Transportation Expenditures*	*Per cent of Provincial Final Domestic Demand*
Newfoundland and Labrador	1,357	2,541	15.5	1.4	8.4
Prince Edward Island	355	2,559	15.0	0.4	8.6
Nova Scotia	2,546	2,700	14.8	2.7	8.4
New Brunswick	2,101	2,780	16.2	2.2	9.3
Quebec	21,601	2,912	15.9	22.5	9.7
Ontario	38,768	3,259	15.6	40.5	9.6
Manitoba	2,882	2,508	13.4	3.0	8.1
Saskatchewan	2,562	2,519	14.0	2.7	8.0
Alberta	10,620	3,472	15.7	11.1	8.1
British Columbia	12,215	2,978	14.4	12.7	8.9
Yukon	114	3,781	16.5	0.12	7.1
Northwest Territories	124	3,008	12.9	0.13	3.5
Nunavut	29	1,031	7.8	0.03	2.1
Canada	**95,816**	**3,080**	**15.4**	**100.0**	**9.2**

Source: Statistics Canada

GOVERNMENT SPENDING ON TRANSPORTATION

3

In fiscal year 2001/02, all levels of government increased their transportation expenditures.

This chapter gives an overview of the financial implications of public-sector involvement in transportation. First, it summarizes all transportation expenditures and revenues by level of government. Second, it gives a synopsis of federal and provincial revenues from transportation users, followed by a detailed breakdown of expenditures by level of government. Finally, it presents consolidated expenditures by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

For several years, government expenditures on transportation evolved within a $17 billion to $18 billion range. As Table 3-1 shows, however, transportation expenditures by all levels of government soared in fiscal year 2001/02 to $19 billion, an increase of $1.2 billion, or 6.4 per cent, over 2000/01. All levels of government contributed to this growth. The federal government added $259 million, mostly as a result of September 11, 2001. While federal transport expenses in 2002/03 are expected to increase by a further 9.2 per cent, non-tax revenues from transport users are expected to more than double. Combined provincial/territorial and local expenditures increased by $1.2 billion, or 6.9 per cent per cent, in 2000/01. Over the last four years, expenditures by provincial/territorial governments have decreased by $311 million; however, local governments have more than made up for this by increasing their spending by almost $2.2 billion since 1998/99.

TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES ON TRANSPORTATION

(Millions of dollars)

	1998/99	*1999/ 2000*	*2000/01*	*2001/02*	*2002/03*[F]
Transport Canada expenses (gross)	1,415	1,252	1,233	1,492	1,348
Other federal expenses (gross)[1]	892	743	774	832	1,189
Provincial/Territorial[3]	7,995	8,838	7,489	7,684	N/A
Local[4]	7,008	7,740	8,481	9,207	N/A
Total gross transport expenditures	17,310	18,572	17,977	19,215	N/A
Gross expenditures per capita	571	607	582	616	N/A
Transport Canada revenues	663	386	352	372	423
Other federal revenues[5]	42	46	45	44	420
Specific tax revenues from transport users[6]	13,207	13,369	13,207	13,361	N/A

Note: N/A = Not available. More yearly data are available in the Addendum on Transport Canada's Web site (www.tc.gc.ca).

1 Excludes transfers of $24 million to Crown corporations not involved in transport in 2002/03.
2 Large increases related to the creation of the Canadian Airport Security Agency.
3 Net of federal transfers as reported by the provinces/territories.
4 Calendar year basis; net of federal and provincial/territorial transfers.
5 Revenues from the airport security fee, and Coast Guard services and small port users.
6 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.
F Forecast at January 31, 2003, of full year.

Source: *Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/territorial departments of transportation; Statistics Canada, Public Institutions Division, Unpublished data*

Government fees and tax revenues from transport users continued to be relatively stable, reaching $13.8 billion in 2001/02, a marginal growth of 1.3 per cent over the previous year.

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada operates roads and bridges, airports, harbour/ports and marine navigational and rescue services (Coast Guard). It also provides modal safety, security and policy services. Transport Canada performs several multimodal activities, ranging from security and emergency preparedness services to the regulation and monitoring of the transport of dangerous goods. Table 3-2 shows that total direct federal transport expenses are forecast to reach $1.7 billion in 2002/03, 15 per cent more than the previous year. After several years of decline, these expenses had already showed a nine per cent increase in 2001/02.

These activities can be divided into two broad categories: operations; and safety, security and policy. Expenses related to operations declined in 2002/03 by 2.9 per cent to $960 million. Increases in federal expenditures on road and bridges reflect larger capital expenditures on the Jacques Cartier and Champlain bridges in Montreal. Expenditures on safety, security and policy are expected to reach $669 million in 2002/03, almost double that of 1998/99. Major increases in recent years are related to new commitments to security in the air sector.

TABLE 3-2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 1998/99 – 2002/03

(Millions of dollars)

	1998/99	*1999/ 2000*	*2000/01*	*2001/02*	*2002/03*[F]
Airports	140	123	92	85	66
Aircraft services	64	51	70	51	60
Coast Guard	471	480	496	520	503
Ports and harbours[1]	86	99	107	112	126
Roads and bridges[2]	156	141	154	209	196
Research and development	12	13	11	11	9
Operations	**929**	**907**	**929**	**989**	**960**
Canadian Air Transport Security Authority (CATSA)					284
Air Safety and Policy[3]	126	142	154	155	165
Marine Safety and Policy	56	47	49	49	56
Road and Rail Safety and Policy[4]	40	41	40	43	51
Multimodal Policy and Safety[5]	125	112	112	174	138
Safety and Security	**346**	**342**	**354**	**422**	**669**
Corporate Services of Transport Canada	**95**	**96**	**111**	**113**	**119**
Total	**1,370**	**1,346**	**1,395**	**1,524**	**1,748**

Note: More detailed data are available in the Addendum on Transport Canada's Web site (www.ca.tc.gc.ca).

1 Includes expenses for small fishing ports by Fisheries and Oceans Canada.

2 Includes contributions by Transport Canada to the Champlain and Jacque Cartier Bridges, and expenses by the National Capital Commission, Public Works and Government Services Canada, Parks Canada and Indian and Northern Affairs.

3 Includes expenses of the Civil Aviation Tribunal.

4 Larger expenditures in 1998/99 related to the purchase of a ferry.

5 Includes expenses for regulation and the inspection of the transport of dangerous goods, Security and Emergency Preparedness, Research and Development, the Canadian Transportation Agency and other multimodal safety, policy and analysis. Large expenses in 2000/01 related to the purchase of explosives detection equipment.

F Forecast at January 31, 2003, of full year.

Source: Transport Canada

FEDERAL SUBSIDIES TO TRANSPORTATION

In 2002/03, total federal direct subsidies, grants and contributions are projected to drop to $789 million, almost $120 million, or 1.4 per cent, less than in 2001/02. The major sources of change are lower subsidies to VIA Rail, which dropped by $55 million, and the termination of the compensation program (almost $100 million) to air carriers for the closure of Canadian airspace after the events of September 11, 2001. Excluding these programs, federal transfers to transport would have increased by $139 million, mostly as a result of renewed funding of the Canada Infrastructure program. The major reduction of funding since 1998/99 can be traced to the cessation of payments to NAV CANADA and highway transition programs. Table 3-3 presents more details on these subsidies.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 1998/99 – 2002/03

(Millions of dollars)

	1998/99	*1999/ 2000*	*2000/01*	*2001/02*	*2002/03*[F]
Air Mode					
Airport (Operation and Capital)	45.0	38.7	46.8	50.6	36.2
NAV CANADA	215.8	-	-	-	-
Airport Assistance[1]	-	-	-	123.9	28.0
Other	2.9	1.8	1.5	2.5	3.3
Total Air	263.8	40.5	48.3	177.0	67.5
Marine Mode					
Marine Atlantic	29.1	114.8	38.6	36.8	46.4
Port Divestiture Fund[2]	6.7	22.0	45.4	21.6	22.3
Other ferry and coastal services	32.0	31.8	30.8	31.7	32.2
Other[3]	12.5	3.9	38.3	21.0	8.9
Total Marine	80.3	172.5	153.1	111.0	109.8
Rail Mode					
VIA Rail	200.5	170.3	231.6	310.2	255.7
Hopper cars	21.0	20.0	18.2	16.4	16.0
Grade crossings	7.2	7.4	7.5	7.5	7.5
Other	8.6	8.2	8.4	8.5	9.0
Total Rrail	237.2	206.0	265.7	342.2	288.3
Highway Modes					
Transition programmes[4]	93.4	57.5	15.3	29.6	37.5
Highway agreements	125.9	107.2	62.8	69.0	102.5
Infrastructure program[5]	81.7	-	-	7.7	113.3
Fixed link in P.E.I.	44.3	46.1	47.2	48.6	50.1
Other	9.9	18.6	20.1	13.7	18.3
Total Highway Modes	355.2	229.4	145.4	168.5	321.7
Other subsidies, n.e.s.	0.4	0.2	0.5	1.1	1.6
Grand Total	**936.5**	**648.5**	**612.9**	**800.3**	**788.9**

Notes: More yearly data are available in the Addendum on Transport Canada's Web site (www.tc.gc.ca). Transport-related expenditures by regional development agencies have been added, retroactively to 1996/97. P.E.I.: Prince Edward Island. n.e.s.: not elsewhere specified

1 Includes air carrier assistance of $99 million in 2001/02 and a cabin enhancement program of $28 million in 2002/03.

2 Includes a payment of $36 million to the Government of Quebec for the transfer of ferry wharves.

3 Includes a payment of $21.4 million to the Hamilton Harbour Commission for the settlement of a civil litigation.

4 Offset federal programs to the elimination of the WGTA and ARFA programs; Labrador ferry service buyout in 1997/98.

5 Includes a transfer of $62.3 million to the Toronto Transit Authority.

F Forecast at January 31, 2003, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Provincial/territorial departments of transportation

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURES BY PROVINCE[1]

In 2001/02, provincial, territorial and local governments spent $17 billion on transportation; this was $0.9 billion, or 7.5 per cent, more than in 2000/01. Local expenditures increased by $0.8 billion (nine per cent). The provinces/territories spent $7.9 billion, 2.6 per cent more than in 2000/01, returning to the level of expenditures of the mid 1990s.

Since 1998/99, provincial/territorial and local governments have spent an average of four per cent per year more on transportation. Alberta, Saskatchewan and Quebec had the largest relative increases, while New Brunswick and the Northwest Territories had decreasing expenditures.

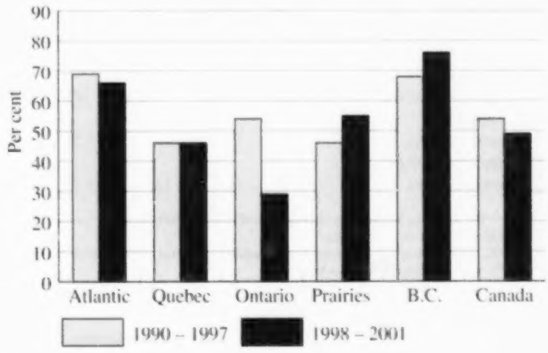
Federal transfers were equivalent to 1.1 per cent of transport spending by local and territorial governments in 2001/02. The Yukon was the most reliant province/territory on federal transfers, with some 30 per cent of its transport spending dependent on federal transfers.

Spending on roads and highways is the most important category of transport-related expenditures for all provinces, accounting for 37 and 42 per cent, respectively, of all net spending by provincial/territorial and federal governments. Other modes are also significant for some provinces/territories. Remoteness makes spending on air transportation more significant for the Northwest Territories, where it accounted for 15 per cent of transport spending in 2001/02. The relative importance of air transport spending in the territories has varied from year to year, reaching as high as 38 per cent in 1995/96.

Although Ontario's transit spending has fallen by $0.6 billion since 1998/99, its share of total transport expenditures, at 22 per cent, is the largest of all provinces. Local governments have replaced provincial governments as the main source of expenditures on public transit systems: in 2001/02, they accounted for 93 per cent of expenditures; in the 1990s, they averaged 46 per cent per year. Expenditures on transit are also significant in Quebec, British Columbia and Alberta.

Figure 3-1 illustrates the trends in the role of the provinces in non-federal transport expenditures over two periods, 1990 to 1997 and 1998 to 2001. The western provinces have increased their share of transport spending by almost 10 per cent each. For the central and eastern provinces, the pattern is reversed. In Atlantic Canada and Quebec, the declining importance of the provincial governments is marginal. The reduction of the provincial role is most evident in Ontario, where the share of transport expenditures dropped from 54 per cent in 1990 – 1997 to 29 per cent in 1998 – 2001. As a result, the Ontario government spent about half as much on transport in 2001/02 than it did in the mid-1990s.

FIGURE 3-1: PROVINCIAL SHARE OF LOCAL AND PROVINCIAL TRANSPORT EXPENDITURES, 1990 – 1997 AND 1998 – 2001



Source: Transport Canada

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. Revenues from cost-recovery initiatives are credited to the federal departments' budget, while revenues from other sources are credited to the federal government's Consolidated Revenue Fund. Both are part of this analysis. Excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees, constitute revenues collected from transport users. Table 3-4 highlights government revenues from transport users from 1998/99 to 2002/03.

---

[1] For more detailed data, please see the tables for Chapter 3 in the Addendum on Transport Canada's Web site (www.tc.gc.ca).

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 1998/99 – 2002/03

(Millions of dollars)

	1998/99	*1999/2000*	*2000/01*	*2001/02*	*2002/03*[F]
Air Transportation Tax[2]	295	3	-	-	-
Airport revenues	267	271	250	264	316
Aircraft services	28	27	28	34	30
Air security fee	-	-	-	-	375
Marine revenues[1]	73	79	72	76	80
Leases of hopper cars[2]	12	13	14	14	10
Other fees and recoveries[3]	30	38	35	28	32
Total credited	705	431	397	416	843
Federal fuel taxes	4,742	4,786	4,807	4,758	N/A
Public and non-transport use[4,5]	430	438	447	439	
Road[5]	4,138	4,164	4,164	4,136	N/A
Other modes[5]	174	185	196	183	N/A
Provincial/territorial fuel taxes	6,831	6,976	6,923	7,060	N/A
Sales tax equivalent[6]	581	643	763	729	N/A
Road[5]	5,941	5,996	5,852	6,050	N/A
Other modes[5]	309	336	308	281	N/A
Provincial/territorial Licences/fees	2,645	2,688	2,687	2,711	N/A
Total tax revenues from road users	12,724	12,848	12,703	12,897	N/A
Total fuel tax revenues from other transport users	483	521	504	494	
Total tax revenues from transport users	13,207	13,369	13,207	13,361	N/A
Total tax and fee revenues from transport users	13,912	13,800	13,605	13,777	N/A

Note: N/A = Not available. More yearly data are available in the Addendum on Transport Canada's Web site (www.tc.gc.ca).

Since 1996/97, the Air transport tax, formerly netted against Transport Canada budget has been credited to the Consolidated Revenue Fund.

1 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.

2 Credited to the Consolidated Revenue Fund.

3 Includes inter and intra-departmental transfers for services and various regulatory, licensing and administrative fees credited to either Transport Canada or the Consolidated Revenue Fund.

4 Estimated fuel taxes from mobile users off the public transport system.

5 Estimates by Transport Canada (revised).

6 Estimates based on the sales tax that would have applied to provincial fuel prices before provincial fuel taxes.

F Forecast at January 31, 2003, of full year.

Source: *Transport Canada; Fisheries and Oceans Canada; Provincial/territorial departments of transportation*

In 2001/02, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected $13.8 billion from transport users through fuel taxes and permit and licence fees. This was 1.3 per cent more than in 2000/01. By far, road fuel taxes make up the largest component of government tax revenues from transportation, averaging $10 billion, or 73 per cent of all government revenues from transport users, from 1998/99 to 2001/02. For a while, road fuel tax revenues were showing the fastest growth. In recent years, the growth of road fuel demand and road fuel tax revenues was moderated by higher fuel prices. Some of this effect was cancelled by a 12 per cent gain in disposable income between 1999 and 2001. Other fuel tax revenues decreased in 2002/03 by $10 million, or two per cent, due to a combination of reduced activity and better fuel efficiency in other modes.

In 2002/03, federal government transportation revenues other than fuel taxes are expected to total $843 million, more than doubling the 2001/02 levels. The new air security fee would yield $375 million.[2] Another gain in excess of $52 million was made from airport revenues (mostly lease rents). Marine fees are expected to bring in around $80 million. Other federal revenues not credited to transport, such as the revenues from the leases of hopper cars or the sale of port assets, are also reported in Table 3-4.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

This section summarizes consolidated federal expenses and expenditures by the provincial/territorial and local governments, netted of transfers received from other levels of government from 1998/99 to 2002/03. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period.

Total government spending on roads has risen by 4.8 per cent per year since 1998/99, reaching $13.7 billion in 2001/02. Road expenditures now account for 71 per cent of overall spending on transportation.

Public funding on transit systems peaked at $3.1 billion[3] in 1998/99 but then declined to $2.6 billion in the following year. Spending has since rebounded to $2.7 billion in 2001/02. In that year, public spending on transit systems accounted for 14 per cent of all government expenditures on transportation, compared with 18 per cent in 1998/99.

In 2001/02, the air mode accounted for 2.8 per cent of gross government spending on transportation. Air-related public spending, which had been declining until 1999/2000, has since recovered by 28 per cent. Much of the growth is related to safety and security initiatives. Public spending related to the marine mode, after excluding the transfer of the BC Ferry debt to the provincial government, continues to hover around $1 billion. The share of the marine mode of public spending on transportation reached five per cent in 2001/02, a level that has not changed significantly since the mid-1990s. Public spending on rail has grown by 15 per cent per year since 1998/99, accounting for two per cent of gross government spending on transportation in 2000/01. Although rail passenger subsidies declined in 2001/02, they still make up about 80 per cent of total spending on rail. In 2001/02, the federal and provincial governments spent $1.9 billion on the air, marine and rail modes combined, while generating $0.9 billion in fees and revenues from transport users.

---

[2] The security tax revenues are designed to recover airport security expenditures not necessarily made in the same year.

[3] Revised figure.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. About four per cent of government transportation spending falls under this category.

TABLE 3-5: TRANSPORT EXPENDITURES/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 1998/99 – 2002/03

(Millions of dollars)

	1998/99	*1999/ 2000*	*2000/01*	*2001/02*	*2002/03*[F]
Federal Operating & Maintenance, Capital and Subsidies[1]					
Air	594	356	364	469	618
Marine	692	799	804	792	794
Rail	252	221	282	360	309
Road	536	396	323	403	548
Other/Overhead	233	222	234	300	268
Subtotal	2,307	1,995	2,007	2,324	2,537
Provincial/Territorial/Local[2]					
Air	75	62	72	72	N/A
Marine	120	1,259	176	183	N/A
Rail	2	5	21	27	N/A
Road	11,398	12,291	12,598	13,317	N/A
Transit	3,085	2,554	2,591	2,747	N/A
Other/Overhead	323	401	511	545	N/A
Subtotal	15,003	16,577	15,970	16,891	N/A
Total Expenses: All Government Levels					
Air	669	423	437	541	N/A
Marine	812	2,059	980	975	N/A
Rail	254	226	302	387	N/A
Road	11,934	12,687	12,922	13,720	N/A
Transit	3,085	2,554	2,591	2,747	
Other/Overhead	556	623	745	845	N/A
Subtotal	17,310	18,572	17,977	19,215	N/A
Government Revenues from Transport Users					
Road users	12,724	12,848	12,704	12,897	N/A
Rail, air and marine	1,174	936	884	869	N/A
Multimodal	14	16	17	11	N/A
Total	13,912	13,800	13,605	13,777	N/A

Note: N/A = Not available. More details are available in the Addendum on Transport Canada's Web site (www.tc.gc.ca).

[1] Transport Canada; Main Estimates and Public Accounts of the federal departments concerned.

[2] Provincial/territorial departments of transportation; Transport Canada. Many provinces have moved to unconditional grants to local governments. For this reason, transportation transfers may be under reported. Net expenses by local governments are only netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.

[F] Forecast at January 31, 2003, of full year.

Sources: Transport Canada; Fisheries and Oceans Canada; Provincial/territorial departments

TRANSPORTATION SAFETY AND SECURITY

4

The safety and security of Canada's transportation system continued to improve in 2002, demonstrated by decreases in the number of accidents in all modes and by security enhancements implemented since the September 11, 2001, terrorist attacks. Public confidence in the safety and security of the transportation system returned to near pre-September 11, 2001, high-confidence levels.

A safe and secure transportation system is critical to Canada's well being. Canadians rely on all forms of transportation to take them where they want to go and also to deliver their goods. Canada's transportation system moves more than $1 trillion in goods every year. Forty per cent of the country's Gross Domestic Product (GDP) is directly linked to trade, much of it in merchandise that is transported by truck and train, by ship and plane, to and from Canada and the United States and markets around the globe.

A threat to the safety and security of Canada's transportation system could, potentially, affect Canadians personally and their ability to travel; it could also affect Canada's economic prosperity and its ability as a nation to trade effectively. Thus, preserving the safety and security of Canada's transportation system remains Transport Canada's primary focus.

Canada already has one of the safest and most secure transportation systems in the world and continues to work diligently to further improve the system. In upholding the safety and security of the transportation system, Transport Canada carries out its objectives through three principal activities: rulemaking, oversight and outreach. Through its rulemaking efforts, Transport Canada establishes and implements legislation, regulations, standards and policies. Oversight activities include issuing licences, certificates, registrations and permits; monitoring compliance through audits, inspections and surveillance; and taking appropriate enforcement action in instances of non-compliance. Outreach activities involve efforts to promote, educate and increase awareness of safety and security issues.

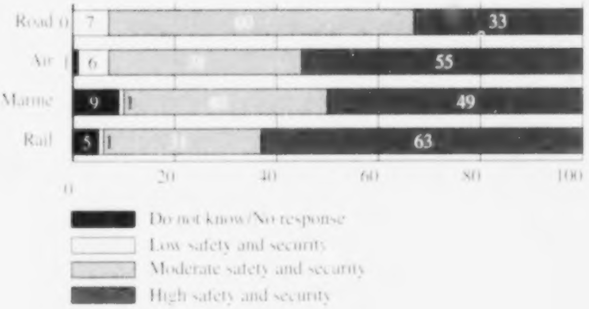
The safety and security of the transportation system is a shared responsibility. Transport Canada works with governments, transportation industries, agencies, associations and international organizations. Transport Canada collaborates with other federal departments, whose programs and services may be affected by transportation activities. Transport Canada also works with provincial, territorial and municipal governments particularly concerning the maintenance of the highway system and enforcement of road safety, as well as the co-delivery of the Transportation of Dangerous Goods (TDG) program. Furthermore, Transport Canada works closely with transportation sector industries, agencies and associations, all of which have a vested interest in the transportation infrastructure, regulatory regime and safety. Additionally, Transport Canada collaborates with its international partners — such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) — to harmonize safety and security standards and to share best practices in safety and security systems.

Since September 11, 2001, Transport Canada — working with government and industry stakeholders — has increased its efforts to be more vigilant, to prevent terrorist activity and to implement more stringent transportation safety and security standards. As a result, Canada has maintained its good transportation safety record. For instance, compared with 2001, accidents were down in the aviation, rail and marine sectors. In fact, the number of accidents involving Canadian-registered aircraft was the lowest in 25 years. Moreover, the number of transportation-related fatalities has remained below the five-year average in aviation, rail, road and the transportation of dangerous goods. The positive outcomes in transportation have been influenced by enhancements and initiatives in safety and security as seen in 2002, which have significantly improved public confidence in the safety and security of the transportation system.

An August 2002 survey conducted by EKOS Research gathered Canadians' perceptions of transportation safety trends. This survey found that, overall, the majority of Canadians had a high level of confidence in the safety and security of the transportation modes (see Figure 4-1).

FIGURE 4-1: TRACKING THE SAFETY OF MODES, 2002

Canada's transportation system includes air, rail, road and marine travel. How would you rate the overall safety and security of each of the following modes of transportation?



Source: EKOS Research Associates

This chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2002. The second section discusses transportation security and reviews the various enhancements undertaken by Transport Canada during 2002.

TRANSPORTATION SAFETY

This section presents the most recent safety-related statistics for all modes of transportation, as well as for the transportation of dangerous goods. Reports of accidents and incidents made to the Transportation Safety Board are one of the principal sources for safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property, while incidents are those that have the potential to result in an accident. As occurrence statistics, they provide indicators of the transportation system's safety performance and help focus efforts on those initiatives and activities that have high safety benefits.

In 2002, Canada continued to maintain a good safety record. The number of accidents involving Canadian-registered aircraft operations (273) was down eight per cent, while accidents involving federally regulated rail operations (985) dropped by seven per cent. Marine accidents (483) were also down by seven per cent. The latest available statistics for road casualty collisions are from 2001; they show a more moderate albeit significant decrease of 2.7 per cent from 2000 levels. In 2002, reportable accidents involving the transportation of dangerous goods increased to 580. This increase may be attributed in part to improved awareness and changes in accident-reporting regulations. Table 4-1 summarizes the modal safety record in 2002, including the transportation of dangerous goods.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE, 2001 AND 2002

	Aviation[1]	*Marine*[2]	*Rail*[3]	*Road*[4]	*TDG*
Accidents					
2002	273	483	985	154,268	580
2001	295	517	1,060	158,499	436
Five-year average (1997 – 2001)	339.6	558.6	1,088.8	155,005	457
Fatalities					
2002	47	25	96	2,778	1
2001	61	34	99	2,926	0
Five-year average (1997 – 2001)	70.6	33.2	100.4	3,003	2
Accident Rate					
2002	7.3	3.0	10.9	49.7	N/A
2001	8.2	2.8	11.8	51.0	N/A
Five-year average (1997 – 2001)	9.0	3.7	12.1	49.9	N/A

Note: Preliminary data for 2002 are estimated. TDG = transportation of dangerous goods.
N/A = Not available.
1 Canadian-registered aircraft other than ultralights. Accident rates per 100,000 hours flown.
2 Based on 1,000 commercial vessel trips.
3 Railways under federal jurisdiction. Rates per million train miles.
4 Road statistics relate to 2001 (most recent statistics) and the 1996 – 2000 five-year average. Road accidents are casualty collisions, which exclude collisions in which only property is damaged. Rates per 100 million vehicle-kilometres.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

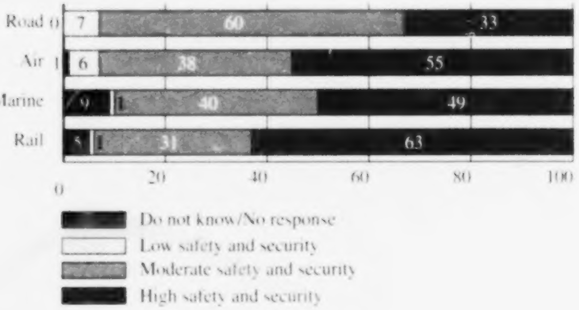
For information on accident trends in 2002 and over the last five years (1997 to 2002), see Table A4-1 in the Addendum. All transportation modes continued to reflect a downward trend in the number of accidents over the last five years.

Another indicator of the safety performance of the transportation system is the number of fatalities. In 2002, there was only one fatality caused by a dangerous goods transport accident. The aviation, marine and rail modes showed a decrease in fatalities in 2002 from 2001. From 2000 to 2001 (the most recent statistics), road fatalities decreased by five per cent to 2,778.

An August 2002 survey conducted by EKOS Research gathered Canadians' perceptions of transportation safety trends. This survey found that, overall, the majority of Canadians had a high level of confidence in the safety and security of the transportation modes (see Figure 4-1).

FIGURE 4-1: TRACKING THE SAFETY OF MODES, 2002

Canada's transportation system includes air, rail, road, and marine travel... How would you rate the overall safety and security of each of the following modes of transportation?



Source: EKOS Research Associates

This chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2002. The second section discusses transportation security and reviews the various enhancements undertaken by Transport Canada during 2002.

TRANSPORTATION SAFETY

This section presents the most recent safety-related statistics for all modes of transportation, as well as for the transportation of dangerous goods. Reports of accidents and incidents made to the Transportation Safety Board are one of the principal sources for safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property, while incidents are those that have the potential to result in an accident. As occurrence statistics, they provide indicators of the transportation system's safety performance and help focus efforts on those initiatives and activities that have high safety benefits.

In 2002, Canada continued to maintain a good safety record. The number of accidents involving Canadian-registered aircraft operations (273) was down eight per cent, while accidents involving federally regulated rail operations (985) dropped by seven per cent. Marine accidents (483) were also down by seven per cent. The latest available statistics for road casualty collisions are from 2001; they show a more moderate albeit significant decrease of 2.7 per cent from 2000 levels. In 2002, reportable accidents involving the transportation of dangerous goods increased to 580. This increase may be attributed in part to improved awareness and changes in accident-reporting regulations. Table 4-1 summarizes the modal safety record in 2002, including the transportation of dangerous goods.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE, 2001 AND 2002

	Aviation[1]	*Marine*[2]	*Rail*[3]	*Road*[4]	*TDG*
Accidents					
2002	273	483	985	154,268	580
2001	295	517	1,060	158,499	436
Five-year average (1997 – 2001)	339.6	558.6	1,088.8	155,005	457
Fatalities					
2002	47	25	96	2,778	1
2001	61	34	99	2,926	0
Five-year average (1997 – 2001)	70.6	33.2	100.4	3,003	2
Accident Rate					
2002	7.3	3.0e	10.9	49.7	N/A
2001	8.2	2.8	11.8	51.0	N/A
Five-year average (1997 – 2001)	9.0	3.7	12.1	49.9	N/A

Note: Preliminary data for 2002. e = estimated. TDG = transportation of dangerous goods.
N/A = Not available.

[1] Canadian-registered aircraft, other than ultralights. Accident rates per 100,000 hours flown.

[2] Based on 1,000 commercial vessel trips.

[3] Railways under federal jurisdiction. Rates per million train-miles.

[4] Road statistics relate to 2001 (most recent statistics) and the 1996 – 2000 five-year average. Road accidents are casualty collisions, which exclude collisions in which only property is damaged. Rates per 100 million vehicle-kilometres.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

For information on accident trends in 2002 and over the last five years (1997 to 2002), see Table A4-1 in the Addendum. All transportation modes continued to reflect a downward trend in the number of accidents over the last five years.

Another indicator of the safety performance of the transportation system is the number of fatalities. In 2002, there was only one fatality caused by a dangerous goods transport accident. The aviation, marine and rail modes showed a decrease in fatalities in 2002 from 2001. From 2000 to 2001 (the most recent statistics), road fatalities decreased by five per cent to 2,778.

Modal trends and comparisons can be misleading if the specifics of each mode, including the level of activity and therefore the exposure to risk, are not taken into account. That said, the 2002 accident rate per activity level for aviation and rail continued to reflect a downward trend. It is important to note that these rates are only a basis for interpreting the occurrence statistics in each mode and not for comparing across modes, given that the activity measure is particular to each mode and may have its own set of data limitations.

RAIL

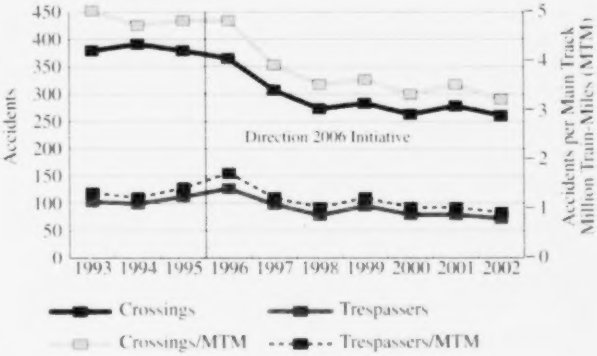
In 2002, the number of reported rail accidents decreased by seven per cent, from 1,060 in 2001 to 985 in 2002. This continued a notable five-year downward trend of 10 per cent. (The 1997 – 2001 average is 1,089 accidents). This trend was also evident in an accident rate of 10.9 per million train-miles in 2002 (down from 11.8 in 2001) and the five-year average (12.1 for 1997 – 2001). Of reported accidents, 47 per cent occurred on non-main tracks and involved either a derailment or collision. These accidents are generally minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. The reported rail accidents presented in this section, and in tables A4-2 to A4-4 in the Addendum, cover the rail networks under federal jurisdiction only.

In 2002, there were 91 fatal accidents (resulting in 96 fatalities) and 63 serious accidents (resulting in 68 serious injuries). Fatalities and serious injuries decreased in 2002, by three and 23, respectively. The majority of these fatalities and injuries resulted from crossing or trespasser accidents. For a provincial breakdown of accidents, fatalities and serious injuries involving railways under federal jurisdiction, see tables A4-3 and A4-4 in the Addendum.

Direction 2006 Initiative — Direction 2006 is a strategic partnership initiative aimed at reducing crossing and trespasser accidents by 50 per cent by 2006. (For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.) Crossing and trespasser accidents continued to account for the greatest number of fatal and serious accidents: 99 per cent of the fatalities and 91 per cent of the serious injuries reported in 2002. Crossing accidents remained below the five-year average and decreased from 278 in 2001 to 261 in 2002, a 6.1 per cent drop. Fatalities related to crossing accidents were up slightly, from 41 to 46, while serious injuries declined from 47 to 42. Trespasser accidents decreased from 79 in 2001 to 72 in 2002. Trespasser fatalities decreased from 56 to 49, while serious injuries remained about the same (22).

Figure 4-2 presents recent trends in crossing and trespasser accidents.

FIGURE 4-2: CROSSING AND TRESPASSER ACCIDENTS, 1993 – 2002



Source: Transport Canada, based on Transportation Safety Board data

As Addendum Table A4-4 shows, only public passive crossing accidents increased from 2001 to 2002 (from 77 to 96) and over the five-year average (92.6), while all others decreased. Transport Canada, together with its partners and stakeholders, is finalizing new regulations that will establish clear direction and consistency in the construction and maintenance of crossings and access control along rail lines. Railway Safety Inspectors, in collaboration with railways and road authorities, conduct risk assessments of highway–railway grade crossings, and Transport Canada administers a crossing funding program for those crossings at greatest risk. In addition, to reduce risk of accidents at night, Transport Canada funded initiatives in 2002 to apply reflective material on the front and back of railway crossing signs and supporting posts at 14,000 passive grade crossings across the country.

Passenger safety — Accidents involving passenger/commuter trains have remained constant over the last five years and in 2002 accounted for seven per cent of total rail accidents. In 2002, Transport Canada undertook a review of rail passenger service safety rules and, in consultation with VIA Rail, also undertook the installation of crash energy management technology for passenger cars.

Work/Rest Rules — In-depth investigations have demonstrated that fatigue is a major factor in transportation accidents. In consultation with railway unions, the Railway Association of Canada and its members developed work/rest rules for rail operations employees. In 2002, Transport Canada further reviewed these rules and consulted with industry and fatigue management experts. The rules are comprehensive and enforceable, allowing railways to better manage the fatigue factor in their operations.

Safety Management Systems — One of the more important and evolving regulatory directions Transport Canada has embarked upon is the implementation of Safety Management Systems (SMS) concepts to instill a strong safety culture in the transportation industry. SMS for railways came into force on March 31, 2001, and railway companies have submitted their SMS information for an initial three-year audit cycle. To date, two thirds of the information submitted has been reviewed, indicating that companies, in general, are developing and adopting SMS. In 2002, Transport Canada continued to work with railway companies to integrate safety into day-to-day operations, address systemic causes of accidents, and foster greater safety self-compliance and internal responsibility within the railway community. For more information on these and other initiatives, visit www.tc.gc.ca/railway/en/menu.htm.

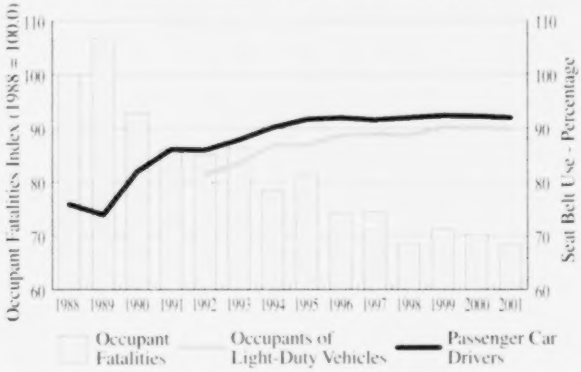
ROAD

Over the last five decades, Canada's road safety record has continued to improve. In 2001 (most recent statistics), there were three per cent fewer casualty collisions than in 2000. One of the most notable improvements among these indicators is a five per cent decrease in fatalities: 148 fewer fatalities in 2001 than in 2000. The three per cent decline in road-related injuries translates into 6,245 fewer injuries in 2001. Addendum Table A4-5 illustrates annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries. The longer-term downward trend in fatalities (723 fewer fatalities in 2001 than in 1992, when there were 3,501) has helped reduce the estimated annual cost to Canadians of up to $25 billion. These downward trends are confirmed by a decrease in the 2001 collision rate per 100 million vehicle-kilometres over the 2000 rate (from 51.0 to 49.7), and over the longer term by a decrease in collisions, fatalities and injuries despite the continued increase in the annual number of motor vehicle registrations (e.g. 1.5 fatalities per 10,000 motor vehicles in 2001 compared with 2.1 in 1992). Data by provincial jurisdiction is shown in Addendum Table A4-6.

Road Safety Vision 2010 — Road Safety Vision 2010 (RSV 2010) was adopted in the fall of 2001. It has a national target to decrease the average number of road users killed or seriously injured by 30 per cent by 2010. (For more information on Canada's road safety record, including international comparisons, and on RSV 2010 targets and the nine sub-target areas, visit www.tc.gc.ca/roadsafety/vision/2010/en/menu.htm.) Figure 4-3 and tables A4-7 to A4-9 in the Addendum demonstrate how past safety initiatives in RSV 2010 sub-target areas have contributed to reducing fatalities over the years.

Seat belts — One of the key RSV 2010 sub-targets is to increase seat belt-wearing rates. A national seat belt survey conducted each June since 1988 shows that the rate for passenger car drivers has reached a plateau, hovering just above 90 per cent since 1995. The increased use of seat belts has contributed to saving thousands of lives over the years. In 2001, almost 40 per cent of those killed and nearly 19 per cent of those seriously injured were not using a seat belt at the time of the collision.

FIGURE 4-3: OCCUPANT FATALITIES DECREASE AS SEAT BELT-WEARING RATES INCREASE, 1988 – 2001



Source: Transport Canada, National Seat Belt Survey; Traffic Accident Information Database

Drinking drivers — As Table A4-7 in the Addendum shows, the percentage of fatally injured drivers who were tested and found to have over the legal limit of blood alcohol concentration (from 40 per cent in the late 1980s with over 81 mg% in blood alcohol concentration to less then 30 per cent in recent years) has declined steadily. The same is true for the number of persons charged with impaired driving offences (70,539 in 2001 compared with 112,000 in 1991). It is not known whether the decrease in charges is a result of public education programs, stiffer penalties or reductions in police enforcement, or a combination of all these factors. Despite these declines, alcohol was still a contributing factor in approximately 1,200 road fatalities and 3,600 serious injuries in 1999 (latest data).

Young drivers and passengers — Another Road Safety Vision 2010 sub-target is to decrease the number of young drivers and passengers (aged 16–19 years) killed or seriously injured in crashes. Among seven age groups, the youth group (aged 15–19 years) had the smallest proportion of all drivers involved in fatal collisions (nine per cent) and injury collisions (10 per cent) but the highest driver involvement rates in fatal and injury collisions rates per 100,000 licensed drivers. As Addendum Table A4-8 shows, a promising three-year trend indicates that this same age group had the greatest decreases in involvement rates in fatal collisions and in injury collisions.

Commercial Vehicles — Another RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles. As Addendum Table A4-9 shows, from 1997 to 2001, commercial vehicles accounted for about eight per cent of all vehicles involved in all types of collisions, yet collisions involving commercial vehicles were the source of roughly 20 per cent of all road fatalities. In 2001, 548 fatalities resulted from collisions involving commercial vehicles. Fatigue is recognized as a major factor in transportation accidents. Consequently, a key initiative in recent years has been to revise and modernize the hours of service rules under the National Safety Code, allowing trucking companies to better manage the fatigue factor in their operations. For more information on the hours of service rules, visit www.tc.gc.ca/roadsafety/reg/reg_e.htm.

As Addendum tables A4-10 and A4-11 show, compared to large trucks (trucks >4,536 kilograms), private automobiles had a more noted decrease of vehicles involved in fatal collisions over the five-year period 1996 – 2000. Although pedestrian fatalities decreased from 372 in 2000 to 335 in 2001, this group accounted for the third largest share of the total (14 per cent).

MARINE

In the marine transportation sector, the downward trend in accidents continued in 2002. A total of 483 accidents were reported last year, the lowest figure in more than 25 years. The majority of marine accidents were shipping accidents. There were 447 in 2002, 10 per cent fewer than the previous five-year average. Foreign-flag vessels were involved in 13 per cent of these shipping accidents in 2002. For more details on accidents reported to the Transportation Safety Board, see Addendum tables A4-12 to A4-14. Accidents aboard ship made up the remainder of marine accidents. The number of such accidents dropped from 59 in 2001 to 36 in 2002, and was down 45 per cent from the five-year average (65).

At the regional level, Addendum Table A4-13 shows that the largest decline in 2002 was recorded on the Pacific Coast, where shipping accidents (139) were 20 per cent below the five-year average.

TABLE 4-2: MARINE OCCURRENCES, 2001 AND 2002

	2002	*2001*	*1997 – 2001 Average*
Total Marine accidents	483	517	559
Shipping accidents	447	458	494
Accidents aboard ship	36	59	65
Vessels involved	481	506	538
Canadian-flag	422	429	453
Foreign-flag	59	77	86
Fatalities	26	34	33
Injuries	75	70	82
Reportable incidents	172	239	197

Source: Transportation Safety Board

Canadian-flag vessels — The number of Canadian vessels involved in shipping accidents was down by two per cent in 2002 from 2001 and by seven per cent from the five-year average. By vessel category, fishing vessels represented the largest proportion of marine accidents, with 55 per cent. Commercial vessels accounted for 33 per cent of Canadian vessel involvement. The commercial accident rate, based on vessel-kilometres and commercial vessels ≥15 gross registered tonnage (GRT), increased from 15.6 in 2001 to 16.5 in 2002.

Marine Fatalities — There were 15 fatal marine accidents involving Canadian- or foreign-flag vessels in 2002, with 26 lives lost. This represents a 21 per cent decrease from the five-year average. Marine injuries totalled 75 in 2002, an increase of seven per cent from 2001 but down nine per cent from the five-year average. A record low in the number of confirmed vessel losses was recorded in 2002 (25), half the number reported in 2001 (51) and observed, on average, over the last five years (48.4).

International — As a member of the International Maritime Organization, Canada is required to report casualties for large commercial vessels. In 2002, the Transportation Safety Board recorded no "very serious" casualties (e.g. loss of life, total vessel loss, severe pollution) involving Canadian vessels. There were four such accidents recorded in the 1997 – 2001 period. There were two Canadian-vessel "serious" casualties (e.g. main engine failure or damage rendering the ship unable to proceed, pollution) in 2002, down from the previous five-year average of six. Canada is also a signatory to two Memoranda of Understanding (MOU) on Port State Control. Under these MOUs, 1,159 foreign-flag vessels were inspected in 2002, resulting in 49 vessels being detained. As a result of improved targetting of ships, the number of substandard ships trading in Canadian ports has decreased. For more information on how Canada compares internationally, visit www.parismou.org, www.tokyo-mou.org and www.imo.org.

Small Commercial Vessels — In 2002, small vessels (≤150 GRT) engaged in commercial operations, excluding fishing, represented 12 per cent of Canadian vessels involved (54) in shipping accidents. Of these, 30 were engaged in passenger/charter activities. As a result of recent fatal accidents involving passenger vessels, Transport Canada has focussed additional safety efforts on small commercial vessels, particularly vessels <15 GRT carrying 12 or fewer passengers. Amendments to the existing regulations that require passenger safety briefings and life saving equipment were implemented in 2002. Recent improvements to the safety regime for these vessel include: inspector training to increase quality and consistency; a first and spot inspections system to improve compliance with safety requirements; and a checklist and electronic database to record inspections, operator training, and passenger awareness.

Small Fishing Vessels — Despite changes in the fishing industry, including moratoriums, small vessels engaged in commercial fishing activity continue to represent approximately half of Canadian vessel involvement and account for the majority of marine fatalities. In 2002, as in previous years, the majority of accidents for these vessels involved grounding (65), followed by flooding (38). Sixteen small fishing vessels were confirmed lost in 2002; although this figure is down from the five-year average, it still represents the largest proportion of total losses reported. For more details, see Addendum Table A4-14.

Pollution accidents — The issues surrounding coastal waters have gained increased concern in light of the *Prestige* shipping disaster off the coast of Spain in 2002. Transport Canada is committed to phasing out single-hulled tankers by 2015 in concert with international standards and U.S. requirements.

The above three initiatives are part of the regulatory reform project under the new *Canada Shipping Act 2001* (CSA 2001 received Royal Assent on November 1, 2001). For more information on regulatory and safety regime improvements for these initiatives, visit www.tc.gc.ca/marine/menu.htm. For occurrence information on recreational boating and related regulatory initiatives, visit www.redcross.ca and www.ccg-gcc.gc.ca.

AVIATION

Air accident figures in 2002 continued a general downward trend and represented the lowest annual number of accidents, including fatalities, involving Canadian-registered aircraft in the last 25 years. The number of accidents involving aircraft decreased eight per cent (from 295 in 2001 to 273 in 2002) and more markedly by 20 per cent from the 1997 – 2001 five-year average of 339.6. There were five fewer fatal accidents in 2002 than in 2001 (28 versus 33) and 14 fewer fatalities (47 versus 61). Over the previous five-year average, there was a greater decrease in fatal accidents (34.4) and in fatalities (70.6). The number of serious injuries increased slightly, from 37 in 2001 to 42 in 2002, but remained below the five-year average of 50. This section presents the Canadian-registered aircraft accidents only; for more details, please see Addendum Table A4-15.

As Addendum Table A4-16 shows, the 2002 aeroplane accident rates by hours flown, itinerant movements and the number of Canadian-registered aeroplanes all confirm about the same rates or decreasing rates compared with 2001 and the previous five-year average. Addendum tables A4-17A and A4-17B provide a breakdown by province of aviation accidents, fatal accidents and fatalities.

Canada's vastness means that both its airspace and aviation community are among the largest in the world. Canadians rely heavily on air transportation to move people and goods safely and securely. With the predicted increases in traffic (expected to double globally in the next 15 years), the challenge for civil aviation authorities will be to find innovative ways to lower the accident rate even further and maintain high public confidence in the safety of the aviation system.

Flight 2005 — Transport Canada is continuing its strong partnership approach to ensure that a solid foundation is established with the aviation community and the Canadian public for achieving Flight 2005 safety targets. Recently, changes have been made to the safety indicators and targets table contained in Flight 2005 in order to establish a consistent data source for tracking progress. For a broad overview of the safety initiatives under way in support of Flight 2005 goals, visit www.tc.gc.ca/CivilAviation/Flight2005/Status/Menu.htm.

Two of the key targets of Flight 2005 relate to airlines and commuter aircraft. The year 2002 was a safe one for airlines and commuter aircraft, with no fatal accidents and few reported accidents. There were six accidents for both airlines and commuter aircraft in 2002, which is below the five-year average. The 2002 accident rates for airliners and commuter aircraft (0.5 and 1.9 per 100,000 hours flown, respectively) confirm consistent to or a decreasing trend over that of the previous years.

A further target area pertains to the combined Private/Other aircraft operations. This sector accounted for 67 per cent of all airplane accidents in 2002 and 58 per cent of the 1997 – 2001 five-year average. Accidents involving the Private/Other category decreased by 17 per cent in 2002 and by 14 per cent over the previous five-year average. In addition, there were four fewer fatal accidents in this category than in 2001. Flight training is included as part of this category of air operations; on average, it accounted for 20 to 25 per cent of all airplane accidents between 1997 and 2001. The accident rates for the aerial work sector decreased in 2002 (11.2 per 100,000 hours compared with 18.5 in 2001) but remained one of the highest among the aircraft sectors.

In 2002, there were 864 reported incidents in total. Incidents refer to those occurrences that did not result in an accident but in which there is an identified potential for an accident to occur. The Declared Emergencies category (requiring priority handling by air traffic control or standby by emergency response services) continued to represent the largest share (32 per cent) of this total, followed by the Risk of Collision / Loss of Separation (23 per cent).

Safety Management Systems (SMS) — Implementing safety management systems into aviation organizations is seen as the cornerstone for improving the safety and economic performance of the aviation industry. In support of the regulatory initiatives under way, advisory material has been published highlighting what is involved in implementing SMS. Civil Aviation has also embarked on an education campaign, which is an integral part of preparing to expand SMS applicability throughout the industry.

For more information on Flight 2005 and SMS, visit www.tc.gc.ca/CivilAviation/menu.htm.

TRANSPORTATION OF DANGEROUS GOODS

In 2002, there were 580 reportable accidents involving the transportation of dangerous goods, up from 436 in 2001. Few accidents involving dangerous goods are actually caused by the goods themselves. Most often, they are caused by other factors such as weather conditions. Of the 580 reportable accidents, dangerous goods caused only two. Most reportable accidents involving dangerous goods do not occur during transport but rather during the handling process or prior to loading or unloading.

The increase in reportable accidents in 2002 may be attributed partly to an improved awareness of the related requirements, including changes to the accident-reporting requirements in the Clear Language version of the Transportation of Dangerous Goods (TDG) Regulations, which came into force on August 15, 2002.

There are approximately 27 million shipments of dangerous goods in Canada every year that are subject to TDG regulations. Almost all (99.99 per cent) arrive safely at their destinations. Among the four modes of transport, 93 per cent of dangerous goods are shipped by road, and, therefore, most reportable accidents (90 per cent) occur in this mode. For details on the number of reportable accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-18 to A4-20.

The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2002, 18 fatalities and 107 injuries resulted from accidents involving dangerous goods. Of these, one death and 43 injuries resulted from the dangerous goods themselves.

Dangerous goods tanks and cylinders in fire — Accident data indicated that pressurized tank failures in fires involving dangerous goods resulted in fatalities, prompting Transport Canada to undertake research in this area. In October 2002, Transport Canada sponsored an International Symposium on the Protection of Dangerous Goods Tanks and Cylinders in Fire to exchange information and results from research.

International harmonization — Transport Canada continues to harmonize regulatory requirements with other jurisdictions. Through participation in NAFTA-related initiatives, Canada proposed the establishment of harmonized North American Model Standards for highway and rail tank cars. Agreement has been reached to undertake such work for both the manufacture and use of rail and truck tanks, with Canada leading the work on rail tanks. Such work is important for the prevention of accidental releases of dangerous goods.

Highway tank safety standards — A Transport Canada study (TP#13678E) of accidents involving dangerous goods vehicles indicated that 83 per cent of vehicle rollovers involved tank trucks. Transport Canada has introduced a program to test the stability of different trucks and to collect data for enhancing highway tank safety standards.

For more information on these initiatives, including the new Clear Language version of the TDG Regulations, visit www.tc.gc.ca/tdg/menu.htm.

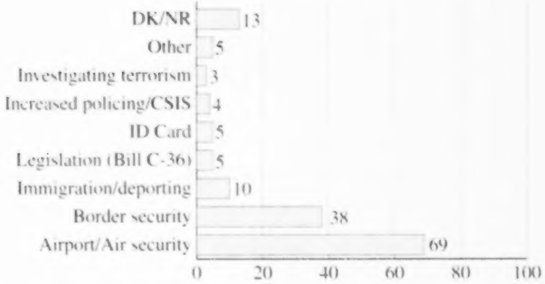
TRANSPORTATION SECURITY

INTRODUCTION

The events of September 11, 2001, fundamentally changed how transportation security is viewed and delivered in all modes of transportation. During 2002, Transport Canada introduced new security initiatives and continued to implement security enhancements announced in 2001, following the terrorist attacks in the United States. As Figure 4-1 illustrates, a majority of Canadians feel a high level of confidence in the safety and security of the transportation modes. This is in part due to a high level of awareness of security initiatives. Figure 4-4 shows the level of awareness of various security initiatives undertaken by the Government of Canada.

FIGURE 4-4: SECURITY ACTIVITIES RECALLED AND MOST AWARE OF BY CANADIANS

(If aware) What activities have the Government of Canada taken to improve public security?



DK/NR = Do not know/No response
CSIS = Canadian Security Intelligence Service

Source: EKOS Research Associates

ENHANCING TRANSPORTATION SECURITY — 2002 INITIATIVES

During 2002, Transport Canada introduced a number of comprehensive measures to strengthen the security of the national transportation system. Transport Canada worked in collaboration with other government departments and industry stakeholders to introduce and implement many new security initiatives in addition to the already rigorous security standards, policies and processes in all modes of transportation and in the transportation of dangerous goods.

Aviation Security

In 2002, Transport Canada introduced a number of initiatives to further enhance the safety and security of aviation. As part of these initiatives, the federal government created the Canadian Air Transport Security Authority (CATSA) in April 1, 2002, to further enhance aviation security. In 2002, the CATSA assumed responsibility for key aviation security services, including:

- Pre-board screening at 89 designated airports.
- Contracting with existing screening providers and providing upgraded training to 3,000 existing screening officers.
- Initiating a progressive program for selecting, training and certifying new screening officers to continue to uphold the delivery of consistent, effective and highly professional service at or above the standards set by the federal government.
- Taking responsibility for the deployment and lifecycle management of the Explosives Detections Systems (EDS) program. As announced in December 2001, the federal government committed $1 billion over five years for the purchase, deployment and maintenance of explosive detection systems at Canadian airports.

During 2002, Transport Canada also implemented legislative and regulatory amendments. The *Public Safety Act* was introduced to prevent terrorist attacks, respond quickly to significant threats, and clarify and update aviation security authorities. Also in 2002, security-related amendments to the *Aeronautics Act* allowed passengers and crew information to be sent directly from an air carrier to a foreign state for security purposes. Transport Canada also participated in and contributed to the *Anti-Terrorism Act*, which amends the Criminal Code and other Acts to combat terrorism. Transport Canada also announced new regulations to aviation security that mandated the installation of internal locking devices to flight compartment doors by May 1, 2002, and new intrusion resistance requirements by April 2003.

Further enhancements include:

- Allocating $3 million for additional security inspectors to increase inspection, monitoring and testing of the air transport security system and to oversee and enhance security requirements nationally.
- Increasing Transport Canada's capacity to identify potential threats and the means to address them through strengthened intelligence networks with other departments, additional analysts, and more advanced communications and related technologies.

Marine Security

Key initiatives implemented in 2002 include:

- The St. Lawrence Seaway and Great Lakes Initiative, through which Canada and the United States agreed to implement enhanced security-screening procedures for ships in these waterways. As part of this agreement, the two countries share information and have increased security boardings on foreign commercial ships entering the St. Lawrence Seaway and the Great Lakes.
- Enhancements to boarding protocols, which have been refined to improve response to any threats before ships arrive at ports. As such, arrival notification for vessels entering Canadian waters has been increased from 24 to 96 hours.

Key departments and agencies working with Transport Canada on marine initiatives include:

- Canada Customs and Revenue Agency (CCRA)
- Citizenship and Immigration Canada (CIC)
- Canadian Security and Intelligence Service (CSIS)
- Canadian Coast Guard (CCG)
- Department of National Defence (DND)
- Royal Canadian Mounted Police (RCMP)
- Solicitor General

During 2002, Transport Canada, in consultation with port facilities, operators, associations and other government departments, identified further enhancements to marine security. As a result, in January 2003, the Government of Canada announced several new initiatives, such as:

- increasing surveillance and tracking of marine traffic, including near real-time identification and tracking of vessels in Canadian waters;
- screening passengers and crew on board vessels;
- installing new detection equipment in ports to screen containers for radiation;
- providing new funding to enhance the RCMP Emergency Response Teams and establish permanent investigator positions at major ports;
- enhancing collaboration and coordination among government departments and agencies;
- making further improvements to port security by establishing restricted areas and requiring people working within these areas to undergo thorough background checks;
- developing and implementing new security requirements in line with recent IMO recommendations;
- participating in the International Convention for the Safety of Life at Sea (SOLAS) and the International Ship and Port Facility Security (ISPS) Code; and
- drafting a Code of Practice, by the International Labour Organization (ILO), which covers security in port areas not covered by the IMO's ISPS Code through the ILO Maritime Security Group.

Surface Transportation Security

In terms of road transportation security within Canada, Transport Canada formed the National Road Security Team (NRST), which includes the Canadian Trucking Alliance and the provinces. The NRST was organized to address security issues related to infrastructure, drivers, vehicles, liaised bridge and tunnel operators, and coordinated federal involvement related to border delays. The NRST reviews security issues with its U.S. counterparts, and is involved in the development of a strategy for strengthening driver's licence security identification.

Additionally, Canada and the United States signed the Smart Border Declaration to serve as a framework for dispositions to secure the flow of people, goods and infrastructure and exchange enforcement information. During 2002, progress and enhancements of this initiative have included the Canadian–U.S. joint agreement on detailed bi-national workplans to protect shared critical infrastructure in the energy, telecommunications and transportation sectors.

Transportation of Dangerous Goods

New and enhanced security initiatives were launched in 2002 relevant to the transportation of dangerous goods (TDG), including the development of the Chemical Biological Radiological and Nuclear (CBRN) Initiative. The intent of this program is to secure access to trained industrial emergency response teams capable of providing CBRN product-related assistance to first responders in the event of a terrorist incident involving dangerous goods and other CBRN agents.

GOING FORWARD

In maintaining the integrity of the national transportation system, Transport Canada regularly monitors the security of the system and will take immediate action if warranted. Transport Canada will continue to work with government, industry and other stakeholders to implement new security initiatives and those introduced since September 11, 2001, in all modes of transportation, the transportation of dangerous goods, and critical infrastructure protection.

Aviation

Transport Canada will continue strengthening Canada's aviation security regulatory regime, including the development of performance standards for explosives detection systems. Transport Canada will work with the CATSA and other stakeholders to develop and implement an enhanced restricted area pass system and an expanded program for screening non-passengers who require access to restricted areas at airports. Additionally, Transport Canada will enhance its consultation process for soliciting input from key stakeholders to include a more structured approach to planning and developing enhancements to aviation security while maintaining the ability to move immediately to respond to threats where such action is warranted.

Marine

Transport Canada will continue to implement those initiatives introduced in 2002 affecting marine security. In the upcoming years, Transport Canada will undertake further initiatives in this area, including:

- amending the marine security regulatory framework in order to comply with the new marine security requirements under SOLAS and the ISPS Code;
- implementing a new Marine Facilities Restricted Area Access Program for workers at key marine facilities; and
- establishing a Marine Security Oversight and Enforcement Program.

Surface

As part of its ongoing efforts to enhance surface transportation security, Transport Canada will continue to work with industry and other stakeholders to initiate and improve security features in this area. This will include reflecting Canada's perspective and the realities of transborder trade with the United States, through the assessment of security requirements in rail and trucking.

Transportation of Dangerous Goods

The transportation of dangerous goods will continue to be a vital issue relevant to transportation security, particularly in light of the incidents of September 11, 2001. In the coming year and as part of its planning process, Transport Canada will continue with the development of the CBRN Response Initiative, including integrating this initiative into the National Counter-Terrorism Plan.

Critical Infrastructure Protection

Canada and Canadians depend on a network of physical and computer-based infrastructures that provide essential energy, transportation and communications, as well as safety, financial, health and emergency response services. These infrastructures — collectively referred to as National Critical Infrastructure, or NCI — are critical to the health, safety, security and economic well-being of Canadians and to the effective functioning of governments. NCI includes physical structures (bridges, canals and pipelines) and information technology-based networks and services (in the financial, telecommunications and energy sectors, for example).

The Government of Canada, through the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP) is initiating the National Critical Infrastructure Assurance Program (NCIAP). Transport Canada will contribute to the development of the NCIAP in order to help protect Canada's key transportation facilities, services, assets and information.

TRANSPORTATION AND THE ENVIRONMENT

5

Canada's Climate Change Action Plan is targetting vehicles and fuels that produce fewer emissions, increasing the use of alternative modes of transportation for passenger travel, and improving the efficiency of the transportation of goods.

The transportation sector has both positive and negative impacts on modern society. The challenge transportation faces is to increase mobility while minimizing the negative effects on the environment. Such environmental effects include climate change, smog and acid rain.

This chapter first examines the trends and pressure points facing the transportation sector and explores them in more detail in relation to the issues of climate change, including actions proposed by all levels of government to address gas emissions from transportation.

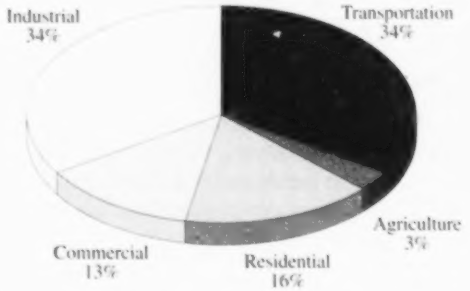
ENVIRONMENTAL IMPACTS OF TRANSPORTATION

OVERVIEW

Climate change is caused by active compounds (commonly called greenhouse gases, or "GHGs") that trap heat reflected from the surface of the planet in the lower atmosphere. The primary GHG is carbon dioxide. It is responsible for about two thirds of anthropogenic (human-induced) climate change. GHG emissions from the transportation sector are acknowledged as one of the major contributors to climate change.

Figure 5-1 shows that in 2000, GHG emissions from Canada's transportation's sector accounted for 34 per cent (163.4 megatonnes) of total emissions from secondary energy use. This means that this sector is the single largest source of GHGs in Canada. Of total transportation-related GHG emissions in 2000, road transportation accounted for almost 77 per cent, the aviation sector 10.3 per cent, and rail and marine combined for less than 9.5 per cent.[1]

FIGURE 5-1: GHG EMISSIONS FROM SECONDARY ENERGY USE IN CANADA, 2000



Source: Natural Resources Canada, Energy Efficiency Trends – Summary Tables (Canada), OEE Web site

The use of fossil fuels in the transportation sector also contributes to other environmental concerns. For more information on energy consumption and prices in the transportation sector, see tables A2-48 to A2-60 in the Addendum. In some of Canada's most densely populated centres, smog is a major health concern. The two main ingredients of smog are ground-level ozone, which is composed primarily of nitrogen oxides (NO_x) and volatile organic compounds (VOC), and fine airborne particles. The transportation sector is a major emitter of most of these pollutants, accounting for roughly 20 per cent of Canada's VOC emissions and more than 50 per cent of NO_x emissions. The sector also emits significant levels of fine particulates. In addition to smog, the transportation sector contributes to acid rain, primarily due to its high levels of NO_x emissions. Sulphur dioxide (SO_2), the other primary contributor to acid rain, is emitted in relatively small quantities by the transportation sector.

---

[1] Transportation emissions accounted for a smaller share (25 per cent) of total GHG emissions from all sources of energy (primary energy), which include emissions from final end use, non-combustion use of energy, electricity generation, and oil and gas production.

Other transportation-related environmental concerns include water and noise pollution, as well as the impact on land use and urban design. Urban congestion affects the competitiveness of the Canadian economy and has an impact on the quality of life of many Canadians. It also results in higher fuel consumption and additional emissions of air pollutants and GHGs, and it aggravates human health problems such as stress and asthma. Other activities, such as the construction of transportation infrastructure and related operation and maintenance activities, affect the environment. Another recognized environmental pressure coming from the transportation sector is the combined life-cycle of transportation vehicles from construction and operation through to final disposal. The transportation and distribution of fuel and its impact on air and land pollution could also be added to this list.

TRENDS IN TRANSPORT — PRESSURE POINTS

The main long-term pressures that will confront the transportation sector are similar to those that affect other sectors — namely, an increasing population and economic growth. Canada's current population of just over 31 million is expected to grow by roughly 2.8 million by 2010.

While international trade has always been particularly important to Canada's economy, its importance has increased rapidly in recent years. This is especially true of trade with the United States. Increased trade has a direct effect on transportation energy use, and consequently on emissions, as the shipment of goods increases the demand for transportation.

Figures 5-2 to 5-6 show recent trends in emissions of GHGs from the main types of transport fuels from 1980 to 2001. Some important qualifications to these figures should be noted, in relation to those used for the national inventory of GHGs prepared by Environment Canada, which follow the international reporting guidelines developed by the Intergovernmental Panel on Climate Change (IPCC, 1997) for the allocation of fuels to countries and sectors.[2]

These figures demonstrate that trends in GHG emissions over the past two decades have differed substantially among the fuels. The causes of these trends are not easily identified but some interpretation can be based on developments in traffic and vehicle technology. Aggregate consumption of any fuel is a product of traffic (vehicle-kilometres and loads) and the fuel efficiency of the vehicles (litres consumed per vehicle-kilometre). Both factors have changed substantially over this period and are different for the different fuels.

As Figure 5-2 shows, GHG emissions from road gasoline fell in aggregate during most of the period, surpassing their 1980 level only in 1999. In 2001, emissions were only about four per cent higher than in 1980, despite substantial growth in the vehicle fleet and its usage. This reflects the unprecedented improvements in fuel consumption per vehicle-kilometre by cars and light trucks, as federal standards took effect in North America.

As Figure 5-3 shows, GHG emissions from road diesel grew substantially over this period and were 130 per cent higher in 2001 than in 1980. Fuel efficiency of new trucks improved impressively through the period. Trucking itself, however, grew substantially faster in response to economic growth (interrupted only briefly by a recession in the early 1990s), liberalized North American trade, the "just-in-time" revolution and deregulation in the trucking market.

Figure 5-4 shows that GHG emissions also grew by 26 per cent in aviation over this period. This growth was not consistent, as most of it occurred only in the latter half of the 1990s, when passenger traffic in transborder services expanded particularly fast. Fuel efficiency (consumption per passenger-kilometre) improved over the period due to technical improvements in new aircraft, a shift from smaller to larger aircraft and increased load factors.

Figure 5-5 shows an overall reduction in rail GHG emissions of about 13 per cent from 1980 to 2001. This occurred despite traffic (in domestic tonne-kilometres) growing by more than one-third, reflecting a substantial improvement in technology and operations.

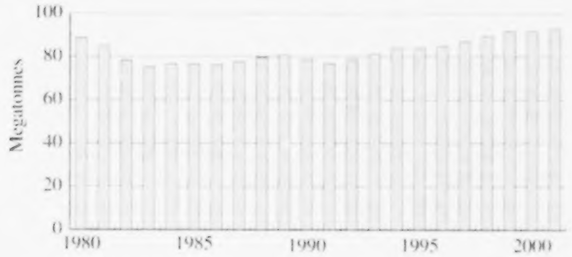
---

[2] For motor vehicle gasoline and diesel, the figures used in this report are for fuels used on the public networks (and therefore taxed at road use rates), excluding all fuels used off-network, such as in farm, forestry and mining operations. For aviation and marine fuels, the figures include all types of fuel (i.e. aviation gasoline as well as turbo fuel, marine gasoline and diesel, and light or heavy fuel oil) and all fuels sold in Canada, whether to domestic or foreign operators. Emissions are expressed in CO_2-equivalents, calculated from sales of each type of fuel combined with rates per unit of fuel for emissions of CO_2, NO and methane. Rates for the latter two gases differ slightly by year, due to differences in emission control equipment, but CO_2 emission rates are overwhelmingly dominant and are constant for each type of fuel.

Figure 5-6 shows an overall reduction in marine GHG emissions of 18 per cent between 1980 and 2001, largely reflecting a contraction in marine traffic.

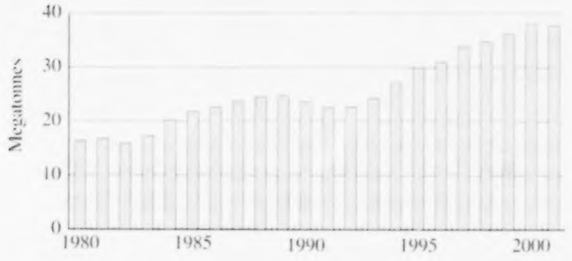
The historical trends observed between 1980 and 2001 are expected to persist in the near future. By 2020, total transportation demand could be more than 50 per cent higher than it was in 1990, with most of the growth expected to come from private vehicles, trucking and aviation. This has the potential to offset overall reductions associated with technological improvements in private vehicle emissions achieved between 1980 and 1990. This is especially true because much of this increase in demand is for larger personal vehicles such as sport utility vehicles (SUVs) and minivans.

FIGURE 5-2: ROAD GASOLINE GHG EMISSIONS 1980 – 2001



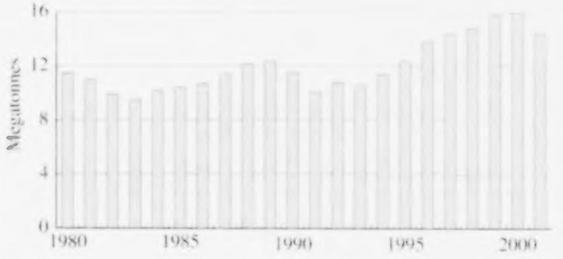
Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

FIGURE 5-3: ROAD DIESEL GHG EMISSIONS, 1980 – 2001



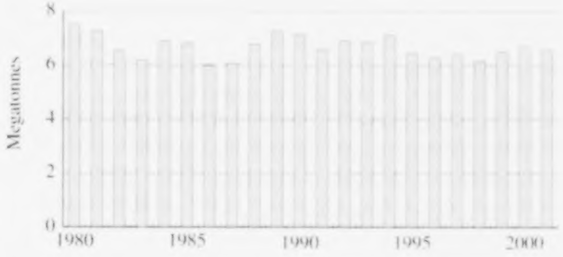
Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

FIGURE 5-4: AVIATION FUEL GHG EMISSIONS, 1980 – 2001



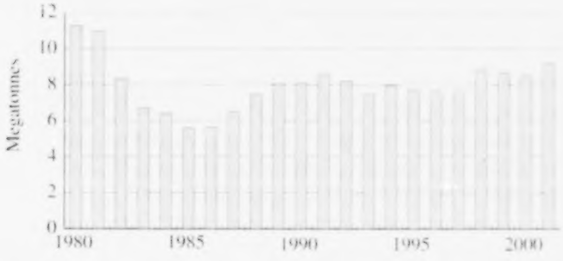
Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

FIGURE 5-5: RAIL DIESEL GHG EMISSIONS, 1980 – 2001



Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

FIGURE 5-6: MARINE FUEL GHG EMISSIONS, 1980 – 2001



Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

THE GOVERNMENT OF CANADA CLIMATE CHANGE AGENDA

In December 1997, signatory countries to the Framework Convention on Climate Change met in Kyoto, Japan, and negotiated commitments to reduce GHG emissions from industrialized countries in the post-2000 period. The Kyoto Protocol, which is subject to ratification, calls on industrialized countries to reduce their collective emissions of the principal greenhouse gases by 5.2 per cent from 1990 levels over a five-year period beginning in 2008. Different countries have different targets. Canada's target is to reduce emissions by six per cent from 1990 levels (240 megatonnes).

First Ministers tasked federal, provincial and territorial Ministers of Energy and Environment to develop a national process to examine the consequences of the Kyoto Protocol and provide for full participation of all levels of government.

In 1998, the Minister of Transport and his provincial and territorial colleagues co-sponsored a multi-stakeholder Transportation Climate Change Roundtable. This Roundtable, which was co-chaired by Transport Canada, evaluated more than 120 potential measures to reduce GHG emissions from transportation. The Roundtable stressed that there is no "silver bullet" in transportation and that an integrated strategy balancing technology, behavioural change and infrastructure investment would be needed.

The analysis of the Transportation Climate Change Roundtable was integrated into a national process that assessed the overall impacts of ratifying the Kyoto Protocol. The analysis provided a set of promising measures, or initiatives, that were inexpensive and could be undertaken fairly rapidly. Several of these measures were adopted as part of the Government of Canada's Action Plan on Climate Change announced in October 2000 (see text box Action Plan 2000: An Update, on page 37).

Transport Canada has adopted a share of this target based on the emissions baseline of its own operations. The target is a four per cent reduction from Transport Canada's 1998/99 GHG baseline by 2008/12. Transport Canada's GHG emissions reduction strategy will mainly target its motor vehicle fleet with alternative fuel purchasing and the marine vessel fleet with efficiency improvements.

Since the baseline year of 1998/99, Transport Canada has reduced its GHG emissions, in all sectors except for marine, by an overall 18 per cent. However, these reductions are mainly due to Transport Canada's divestiture program. Transport Canada's emission baseline will be addressed to remove the impact of such divestitures once an accepted methodology is in place.

Table 5-1 shows levels of GHG emissions from Transport Canada activities since 1998/99, while Figure 5-7 shows the changes in these emissions from the baseline year to 2001/02.

TABLE 5-1: EMISSIONS FROM TRANSPORT CANADA ACTIVITIES,[1] 1998/99 – 2001/02

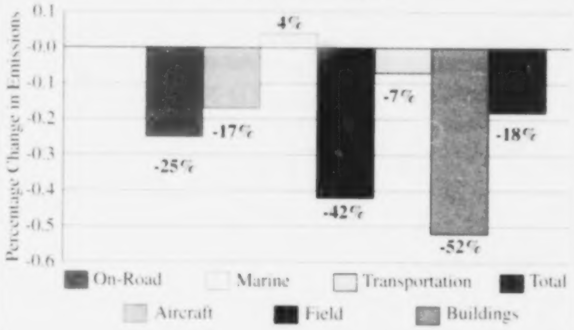
(Tonnes of CO_2 equivalent)

Category	*1998/99*	*1999/2000*	*2000/01*	*2001/02*
On-Road	2,583	3,107	2,048	1,942
Aircraft	14,768	13,207	13,207	12,302
Marine	43,552	43,194	44,400	45,235
Field	7,677	10,706	6,605	4,490
Total	**68,580**	**70,214**	**66,260**	**63,969**
Transportation	68,580	70,214	66,260	63,969
Buildings	23,600	21,400	11,700	11,400
Subtotal	**92,180**	**91,614**	**77,960**	**75,369**

[1] The level of emissions from transportation for all years has increased considerably, since last year's annual report, due to the inclusion of three marine vessels that were not previously accounted for.

Source: *Transport Canada*

FIGURE 5-7: EMISSION TRENDS IN TRANSPORT CANADA ACTIVITIES, 1998/99 – 2001/02



Note: 1998/99 is the baseline year for Federal House in Order.

Source: *Federal House in Order, Greenhouse Gas Inventory 2001 – 2002, Transport Canada Environmental Affairs, January 2003.*

In May 2002, the federal government released *A Discussion Paper on Canadian Contribution to Addressing Climate Change*. Options outlined in the paper reflected varying degrees of effort in the transport sector to reduce GHG emissions.

In June 2002, a series of stakeholder workshops were held in 14 cities to gather feedback on the discussion paper. Transportation stakeholders from across Canada participated in these consultations.

On November 21, 2002, the Government of Canada released the Climate Change Plan for Canada and tabled the detailed plan in Parliament. The Plan outlined how Canada can meet its emission reduction target under the Kyoto Protocol. On December 17, 2002, Canada ratified the Kyoto Protocol at the United Nations in New York.

The Plan sets out a three-step approach to achieving Canada's climate change target under the Kyoto Protocol of reducing annual GHG emissions by 240 megatonnes (MT). First, investments to date under Action Plan 2000 are expected to address one third of the total reduction target (80 MT). Second, the Plan articulates a strategy for a further 100 MT reduction through actions in the following three priority areas: 1) actions by Canadians and governments in the transportation and building sectors; 2) reductions of emissions by large industry, through a comprehensive approach that includes targets established under covenants domestic emissions trading (with access to domestic offsets, and the international carbon market) and strategic investments in renewable energy, technology and infrastructure; and 3) government purchases of permits in the international market. Together, the actions already under way and those proposed in the Plan are expected to address 180 MT of our 240 MT target. The Plan outlines a number of current and potential actions that could enable Canada to address the remaining 60 MT reductions.

Transportation is a significant component of the Climate Change Plan for Canada with 21 MT of potential reductions identified from existing and new measures in this sector. It is clear that this sector is being counted on to deliver a considerable portion of Canada's GHG emission reductions (see text box on Climate Change Plan for Canada on page 38).

The Plan builds on the solid foundation that was established by the five transportation programs in Action Plan 2000 on Climate Change. An overview of proposed new transportation measures in the Climate Change Plan for Canada follows.

EFFICIENT VEHICLES

The Government of Canada will continue its initiative to improve new vehicle fuel efficiency by 25 per cent by 2010. It will also work to improve markets for new, more efficient vehicles. This effort will involve new campaigns aimed at giving consumers better information on the fuel efficiency and "carbon burden" of vehicles in the market. These efforts could also reduce the emissions of vehicles currently on the road by encouraging consumers to better maintain their vehicles and use them in a more fuel-efficient manner.

LESS GHG-INTENSIVE FUELS

When blended with gasoline at low levels (such as 10 per cent), ethanol can reduce the amount of GHGs produced by that gasoline. Most vehicles in Canada today can safely operate on ethanol-blended gasoline (E10). While grain-based ethanol will play an important role in the short term, it is recognized that cellulosic ethanol is an emerging Canadian technology that holds much promise over the longer term. The Government's goal is to have 35 per cent of Canada's gasoline supply contain E10 by 2010.

Canada is also a world leader in new technologies for the production of biodiesel. Biodiesel is made from low-cost waste materials and has the potential to reduce GHG and reap clean air benefits. The plan proposes that federal, provincial and territorial governments collaborate on how to reach the target of 500 million litres produced by 2010. This focus on biodiesel technologies will develop new industries and, at the same time, address important waste management issues.

PASSENGER TRANSPORTATION

In keeping with its commitment in the Speech from the Throne regarding modern infrastructure and a new strategy for a safe, efficient and environmentally responsible transportation system, the federal government proposes to work with provinces and territories to support projects for public transit infrastructure. This would be done in conjunction with collaborative efforts to establish supporting transportation management and land-use planning frameworks at the municipal level, and significant provincial and territorial actions to increase demand for public transit and reduce single-occupant vehicle use. Potential actions include mechanisms to give priority to public transit in traffic, and strategic management of the supply and pricing of parking facilities and roads. Municipalities can also improve infrastructure for non-motorized transportation through the creation of walking and biking paths.

EFFICIENT FREIGHT TRANSPORTATION

Through negotiations with associations and industry, as well as new education and awareness tools, the goal outlined in Action Plan 2000 for freight efficiency improvements would be increased. Public–private collaboration to promote the use of intermodal freight opportunities and to increase the use of lower-emission vehicles and modes is sought to increase freight efficiency. This could be done through support for improvements in infrastructure; greater use of intelligent transportation systems; identification and removal of barriers to intermodal freight; harmonization of national and international standards; and showcasing of best practices and new technologies.

In recognition of its position as Canada's largest single enterprise, and to demonstrate strong leadership in addressing climate change, the federal government has committed to reduce GHG emissions from its operations by 31 per cent below 1990 levels by 2008/12. Based on business as usual practices, this target will be achieved through improvements in transportation (on-road, field equipment and marine) and reductions in building energy use.

CLIMATE CHANGE IMPACTS

Global warming and climate change have actual and potential impacts on Canada's transportation systems. Climate and weather affect transportation operations and the planning, design, construction, maintenance and performance of transportation infrastructure and operations. For example, warmer temperatures can lead to permafrost degradation and affect the structural stability of northern transportation infrastructure. They can cause shortened ice road seasons. Increased freeze cycles add to pavement stress and rail track damage. Furthermore, changes in precipitation may increase the rate of weathering and flooding of infrastructure. Rising sea levels in coastal areas may render some transportation sites and structures vulnerable. However, impacts can also be beneficial. Examples include reduced snow removal costs or lengthened operational seasons for certain modes. To develop effective strategies, these and other climate change impacts must be assessed comprehensively by examining both regional and modal implications.

Adapting to climate change impacts means that Canadians — industries, businesses, governments and individuals — will now have to factor in other variables in their economic decisions, such as changes in weather and other climate-related effects. Such a response will determine how Canada adapts and whether Canada does so at a high or low economic cost. It is important that we improve our understanding of the potential vulnerability of the transportation system to climate change impacts.

Transport Canada has been involved in various initiatives to address climate change impacts on transportation in Canada. During 2002, work was completed on the report *Climate Change and Adaptation: A Canadian Perspective*. Support was provided to stakeholder consultations to assist in the development of a National Adaptation Framework.

The provincial, territorial and municipal governments have been addressing the challenge of climate change as well. They have developed and carried out their own programs and provided support to private-sector and non-governmental organizations projects. The following is a sample of the provincial and territorial action plans that have been published.

OVERVIEW OF PROVINCIAL/TERRITORIAL CLIMATE CHANGE ACTION PLANS WITH TRANSPORTATION INITIATIVES

NEW BRUNSWICK

In January 2003, the Government of New Brunswick released its discussion paper on developing a climate change action plan for the Province and launched an Internet-based public consultation process. The discussion paper is the first step to developing an action plan based on a five-pronged approach: demonstrating government leadership through energy efficiency improvements and regulations and tax treatments; enhancing awareness and understanding; stimulating new technologies and innovative approaches; investing in knowledge; and working with a wide range of partners. The discussion paper also outlines examples of possible energy efficiency measures in all sectors, including transportation.

PRINCE EDWARD ISLAND

In September 2001, the Government of Prince Edward Island (P.E.I.) released its *First Climate Change Business Plan (2000 – 2003)*. In it, the provincial government committed to implement a number of transportation measures such as investigating intelligent transportation systems in road design, incorporating global positioning systems in highway maintenance, and continuing to promote ride-sharing programs such as P.E.I.'s Enerpool and teleworking for provincial employees.

QUEBEC

In 2000, the Government of Quebec released its *Action Plan on Climate Change 2000–2002*. The Plan identifies seven priority areas, several of which are relevant to transportation: investing in urban transportation such as infrastructure, transit and freight/intermodal; facilitating the penetration of fuel efficient vehicles in the Quebec market; improving energy efficiency; and enhancing climate change technology research and development (R&D) (e.g. hydrogenation, biomass, solar energy, gas technologies, electro-technologies).

On October 18, 2002, the Minister of State for Municipal Affairs and Greater Montreal, the Environment and Water, André Boisclair, released Quebec's first inventory of GHG emissions, confirmed the Province's support for the Kyoto Protocol, and called for a Canada–Quebec bilateral agreement on implementation and funding for emissions reductions. On the same day, he unveiled the *Declaration of Quebec Respecting the Implementation of the Kyoto Protocol in Canada*. Quebec's National Assembly began public consultation on the implementation of the Kyoto Protocol in Quebec in February 2003. This consultation is meant to allow the Province of Quebec to develop views on how to achieve its reductions objectives.

ONTARIO

The Province of Ontario has not released any specific climate change plans but has focused its actions and initiatives on addressing air quality issues with associated climate change objectives often considered as co-benefits. The Drive-Clean initiative is an example of an approach focusing on an air quality issue with relevant implications for climate change.

MANITOBA

On June 19, 2002, the Province of Manitoba released the report *Kyoto and Beyond — Meeting and Exceeding Our Kyoto Targets*. The report describes some of the actions under way, including: the promotion of ethanol use and production. The report also introduced emissions targets for Manitoba of 18 per cent below 1990 levels by 2010 and 23 per cent by 2020. On October 15, 2002, the provincial government released the climate change action plan *Kyoto and Beyond — A plan of action to meet and exceed Manitoba's Kyoto targets*. The plan describes the Province's approach to meet its emission targets. It focuses on new energy developments to foster growth in wind power, geothermal energy and hydrogen research and to increase the use and production of ethanol.

SASKATCHEWAN

On October 16, 2002, the Province of Saskatchewan released the climate change position paper *A Saskatchewan Perspective on Climate Change Policy* outlining the Province's view toward the federal plan. The paper notes many initiatives taken by Saskatchewan to reduce GHG emissions, including the introduction of the mandatory use of ethanol in gasoline. The position paper seeks support for a national ethanol policy. In June 2002, Saskatchewan passed the *Ethanol Fuel Act*, which provides a legal framework for mandating ethanol content in gasoline sold in the province. The Act will come into force when the industry is sufficiently developed. Saskatchewan will become one of the largest producers of ethanol in Canada.

ALBERTA

In May 2002, the Province of Alberta released a draft action plan proposing an Alberta approach to address climate change and reduce GHG emissions. Following extensive consultations, Alberta released its plan in October 2002 — *Albertans and Climate change: Taking Action*, which establishes a framework to reduce GHG emissions. In the plan, the Province of Alberta committed to reduce GHG emissions intensity relative to the Gross Domestic Product (GDP) by 50 per cent below 1990 levels by 2020. The plan proposes to negotiate binding agreements with specific economic sectors (including transportation) to set measurable goals for reducing GHG emissions, purchase hybrid vehicles for the government fleet; and to implement a provincial fuel cell strategy through demonstration projects.

NEW ENGLAND GOVERNORS AND EASTERN CANADIAN PREMIERS' CLIMATE CHANGE ACTION PLAN

The Conference of New England Governors and Eastern Canadian Premiers released their Climate Change Action Plan in 2001. The action plan presents a set of recommendations and action items, and serves as a framework for taking action on climate change. The goal of the Plan is to develop a comprehensive and coordinated regional approach to reduce GHGs to 1990 levels by 2010 and by 10 per cent below 1990 levels by 2020. At their November 22, 2002, meeting, the Council of Atlantic Premiers reconfirmed their commitment to implementing the NEGECP Action Plan. Some of the Plan's action areas are: decreased growth in GHG emissions from the transportation sector through the promotion of higher efficiency vehicles; lower carbon fuels and technologies through incentives and education; public education; management and reduction of transportation demands; enhancement of mass transit; advancement of vehicle technology; improvement of energy efficiency in freight transportation; and support for interconnected greenway and bicycle/pedestrian pathway systems.

OVERVIEW OF MUNICIPAL INITIATIVES

An estimated two thirds of Canada's transportation-related GHG emissions are generated within urban areas. Thus, land use and transportation plans at the municipal level are important from a climate change perspective.

The Federation of Canadian Municipalities has provided funding for sustainable municipal transportation projects since 2000 through the Green Municipal Enabling Fund. The Government of Canada created the Green Funds in its 2000 Budget. Funding for direct transportation projects amounted to only five percent of the total awarded in the initial years. However, the Federation has taken steps to increase the focus on transportation by:

- expanding the transportation category beyond public transit technologies and municipal fleets to include public transit, integrated and alternative transportation, and transportation demand management;
- expanding the definition of innovation (a key criteria) to include the eligibility of innovations adopted elsewhere or in a different size of community;
- adding dedicated staff to support transportation applications; and
- allowing funding to be combined with funds from other federal sources, such as Transport Canada's Moving on Sustainable Transportation Program.

Examples of transportation projects funded across Canada in 2002 include:

- Sustainable Transportation in South East False Creek, Vancouver, British Columbia
- Public Transit Feasibility Study, Canmore, Alberta
- Rapid Transit Feasibility Study, Regional Municipality of York, Ontario
- Reducing Environmental Impacts of Truck Freight, Sherbrooke, Quebec

The Federation of Canadian Municipalities has also funded sustainability planning projects in various sized communities that examine all aspects of community systems, including transportation, and that may lead to actions that encourage sustainable transportation. The Greater Vancouver Regional District is pursuing a cities PLUS project looking at a 100-year sustainability strategy for Greater Vancouver. This project will form Canada's submission to the International Gas Union's Sustainable Urban Systems Design Competition in June 2003.

ACTION PLAN 2000: AN UPDATE

Five elements under Action Plan 2000 on Climate Change are being implemented.

Freight Efficiency and Technology Initiative — This $14 million initiative is designed to reduce the growth of greenhouse gas (GHG) emissions from freight transportation. It consists of three components: the Freight Sustainability Demonstration Program (FSDP); voluntary performance agreements between the federal government and modal industry associations; and training and awareness for freight operators and shippers. Over the course of 2002, the program has, among other things, awarded $340,000 to four technology demonstration projects through the first round of the FSDP and hosted an international aviation workshop on operational measures for reducing fuel use and emissions.

Canadian Transportation Fuel Cell Alliance — This $23 million program aims to demonstrate and evaluate different processes for the production and delivery of hydrogen to fuel cell vehicles at fuelling stations. It also addresses the development of appropriate codes and standards; conducts studies and assessments of various hydrogen production and delivery systems; and provides for related communications activities. In its second year of operation, it has, among other activities, finalized the work plans of its five working groups; initiated the development of several fuelling demonstration proposals; been instrumental in the formation of a committee to develop a Canadian Hydrogen Installation Code for hydrogen fuelling stations; initiated a special study related to the future availability of electricity for hydrogen production; and assisted with the development of an introductory short course on hydrogen and fuel cells.

Future Fuels Initiative — This program aims to increase the supply and use of ethanol produced from biomass such as plant fibre, corn, wheat and other grains. The program targets a fourfold increase in current ethanol production and use in Canada to about one billion litres per year by 2010. It includes a $140 million contingent loan guarantee program and $3 million over five years to carry out analytical research and public awareness activities. The initiative was launched in November 2001. Farm Credit Canada is administering the National Biomass Ethanol Program component of the program on behalf of Agriculture and Agri-Food Canada (AAFC). Natural Resources Canada and AAFC have consulted with feedstock suppliers, ethanol manufacturers, refiners, automanufacturers and governments on the barriers and opportunities regarding ethanol market expansion. Research projects are being launched in a number of areas, including the economic impacts and co-benefits of an ethanol industry. An awareness campaign is being implemented, in cooperation with industry and the provinces. Industry representatives are advancing feasibility studies and proposals for new ethanol facilities in a number of communities across Canada.

Motor Vehicle Fuel Efficiency Initiative — This $16 million program aims at significantly improving the fuel efficiency of new light-duty vehicles through voluntary targets for vehicle fuel efficiency, consumer campaigns, monitoring compliance, and testing and demonstrating advanced technology vehicles. Preliminary meetings were held with automobile manufacturers during the year to outline the nature of the initiative. Natural Resources Canada sponsored a workshop on a joint study with the U.S. Department of Energy entitled *Examining the Potential for Voluntary Fuel Economy Standards in the United States and Canada*. Citizen forums on personal transportation were completed and market research activities initiated to gain a better understanding of the importance of, and barriers to, fuel efficiency in consumers' vehicle purchase and maintenance decisions. An idling project was launched in partnership with the Canadian Petroleum Products Institute and the City of Mississauga, and the Rubber Association of Canada was recruited as a partner for a national tire inflation campaign, which will be launched in the spring of 2003.

Urban Transportation Showcase Program — This $40 million program encourages Canadian municipalities to adopt more energy-efficient transportation and land-use plans and practices. The program will fund at least four showcases over five years to demonstrate, evaluate and promote effective strategies to reduce GHG emissions from transportation in urban Canada. In 2002, the program awarded $450,000 to 15 short-listed finalists to help them develop and submit a detailed proposal for implementing sustainable urban transportation strategies. An announcement on the Program's final recipients is expected in the fall of 2003. The program is also targetting learning events related to sustainable urban transportation as part of its information network.

CLIMATE CHANGE PLAN FOR CANADA

SUMMARY

Canada's Climate Change Plan calls for action on vehicles and fuels that produce fewer emissions, the increased use of alternative modes of transportation for passenger travel, and more efficient transportation of goods. These actions will also contribute to cleaner air and reduced traffic congestion, making our cities healthier and more sustainable.

ACTIONS UNDER WAY (9 MEGATONNES (MT))

- Negotiations for 25 per cent improvement in new vehicle fuel efficiency by 2010 (5.2 MT)
- Increased ethanol production to support the introduction of ethanol blending in 25 per cent of the gasoline supply (0.8 MT)
- Development and demonstration of refuelling technologies and infrastructure for commercialization of fuel cell vehicles (0.1 MT)
- Demonstration of integrated strategies, technologies and planning to reduce urban transportation emissions (0.8 MT)
- Negotiation of voluntary agreements with air, rail, truck and marine sectors to improve fuel efficiency of transport of goods (2 MT)

PROPOSED NEXT STEPS (12 MT)

- Consumer action to improve vehicle efficiency, including off-road vehicles (0.8 MT)
- Increasing the target for ethanol blending to 35 per cent of the gasoline supply and setting a target of 500 million litres of biodiesel being consumed by 2010 (2 MT)
- Increased use of public transit, alternative approaches to passenger transportation and sustainable urban planning (7 MT)
- More efficient transport of goods, including intermodal (2.3 MT)

RAIL TRANSPORTATION

6

With minimal discontinuance of railway tracks, Canadian railways did relatively well in 2002, despite a slight reduction in rail loadings.

MAJOR EVENTS IN 2002

Due to a grain harvest significantly below historical levels in 2002, Canadian railways saw movements of grain drop by about 24 per cent from 2001.

The first *Grain Monitor Report* was issued in June 2002. General observations were that significant reductions in rail car cycle times were experienced, while rationalization of the elevator system continued at a high pace.

Overall traffic levels declined by almost two per cent in 2002. Rationalization activity and changes in industry structure were again minimal.

As a result of interest in ensuring border security, U.S. Customs proposed that scanning equipment be installed at each major rail border crossing point. Rail carriers expressed concerns over resulting potential border delays and operational difficulties.

INFRASTRUCTURE

Relatively little change occurred in the structure of the Canadian rail system during 2002. A total of 290 kilometres of track was discontinued during the year: a Canadian Pacific Railway (CPR) line in Alberta, a portion of a line in Ontario owned jointly by Canadian National (CN) and CPR and a portion of a line in Saskatchewan owned by a shortline. Very few transfers occurred. The only activity was the acquisition by NB Inc. of the rail assets of Devco following its dissolution. In aggregate, the size of the Canadian rail network decreased by 0.6 per cent from 49,711 to 49,427 kilometres. This decrease was slightly greater than that experienced in the previous two years, but the relative lack of system change remains in stark contrast to the level of activity during the late 1990s.

Table 6-1 shows the distribution of trackage by key carriers and carrier groups in 2002.

As has been noted in previous annual reports, the latter half of the 1990s saw an explosive growth in the number and activity of shortlines in Canada. From modest beginnings in the late 1980s the number of shortlines formed in Canada grew slowly during the early 1990s and then quite dramatically following the enactment of the *Canada Transportation Act 1996*. Prior to 1996, 11 new

TABLE 6-1: RAILWAYS IN CANADA, 2002

	2002 Owned / Leased Route-Kilometres	*2001 Owned / Leased Route-Kilometres*[1]	*Per cent of Total (2002)*	*Percentage Change Over Previous Year*
CN Rail	18,886	19,098	38.2	(1.1)
CP Rail	13,817	13,973	28.0	(1.1)
Regional and Shortline Railways	15,875	15,795	32.1	0.5
All Others[2]	844	844	1.7	0.0
Total	**49,422**	**49,711**		**(0.6)**

[1] 2001 trackage revised slightly to reflect improved data.

[2] Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Note: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.

Source: Transport Canada

shortlines had formed, while between 1996 and 2000, 37 new shortlines were created. Since then, however, only a few new shortlines have been created, suggesting that the sector has reached a plateau. No doubt further transfers will occur in the future, but it is unlikely that the rate of formation of the late 1990s will be repeated.

Between 1990 and 2002, approximately 9,400 kilometres of rail line were discontinued. The majority of track was discontinued more or less equally by CN and CPR. In aggregate, almost 60 per cent of all discontinuances in this period occurred in Ontario, Saskatchewan and Alberta. About 11,400 kilometres of track was transferred in this period, predominantly from CN and CPR to newly formed shortline carriers. A small amount of trackage was transferred between other carriers. Of the total amount of track transferred, about 30 per cent originated with CPR and 66 per cent with CN.

Table 6-2 shows rationalization activity in the rail sector in 2002 and from 1990 to 2002.

TABLE 6-2: RAILWAY RATIONALIZATION IN CANADA, 2002

		2002 Rationalization	*1990 – 2002 Rationalization*
Discontinuances	CPR[1]	156	4,255
	CN	134	4,353
	Other	35	839
	Total	**290**	**9,447**
Transfers	CPR		3,377
	CN	74	7,522
	Other	40	467
	Total	**114**	**11,366**
Total	CPR	156	7,631
	CN	208	11,875
	Other	75	1,307
	Total	**439**	**20,813**

[1] CPR lines on CASO not included to avoid double-counting

Source: *Transport Canada*

The 20,813 kilometres of line rationalized since 1990 have resulted in major changes in the structure of the rail industry in Canada. While CN and CPR remain the dominant carriers (they account for 85 per cent of industry activity and revenues), they operate about two thirds of the total domestic rail network, whereas a decade ago they operated about 90 per cent of the trackage. CN acquired Wisconsin Central in 2001 and in so doing also acquired Algoma Central Railway, which was previously owned by Wisconsin Central. CN is also the leading bidder for the provincially owned Ontario Northland Railway.

Several transactions were slated to occur at the end of 2002 but were postponed until early January 2003. The Devco properties acquired by NB Inc. were to have been transferred to a subsidiary of the Quebec Railway Corporation, a company with numerous shortline railway operations in Eastern Canada. This transaction occurred early in 2003 as did the transfer of the assets and operations of the Canadian American (CDAC), Quebec Southern (QSR) and Bangor & Aroostock (BAR) railways to the Montreal, Maine & Atlantic Railway. The parent company of the CDAC, QSR and BAR was Iron Road, a U.S.-based shortline holding company that had gone bankrupt. The E&N, a RailAmerica subsidiary operating on Vancouver Island, lost a significant proportion of its traffic base to trucking in 2001 and had indicated that it would cease operations by mid-2002. In the end, following discussions between the operator, VIA Rail, CPR and regional stakeholders, the decision was made to continue operations. The decision is pending a long-term solution for the future of rail services on Vancouver Island.

While it is expected that both CN and CPR will continue to rationalize their networks, it is likely that second-order rationalization (the rationalization of track acquired by shortline or other operators from CN or CPR) will also continue. The multiple transactions involving the properties originally owned by Devco are a case in point.

Addendum tables A6-1 and A6-2 show further detail of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

The character of the Canadian railway industry changed dramatically in the 1990s, as the number of carriers more than doubled. Despite these changes, CN and CPR continued to generate the bulk of revenues in the rail industry. Total rail industry revenues in 2001 were $8.1 billion, of which 89.2 per cent was generated by the Class I carriers, CN, CPR and VIA Rail. This was down slightly from the 91.2 per cent share in 1990. However, revenues for the Class I carriers grew at an annual rate of 1.2 per cent over the 1990 – 2001 period. This was in contrast to the regional railways (BC Rail, Algoma Central, Ontario Northland, Cartier Railway and the Quebec North Shore & Labrador), which saw their revenues decline at a rate of 0.5 per cent per year. With the growth in the shortline sector, there was also significant growth in this sector's revenues, from about $95 million in 1990 to about $385 million in 2001, an annual growth rate of 13.5 per cent. This growth rate translated into a relative increase in the shortline sector's proportion of rail industry revenues from 1.4 to 4.7 per cent.

Table 6-3 compares revenues in the railway sector in 2000 and 2001. Addendum Table A6-3 shows revenues since 1990.

VIA Rail continues to dominate the intercity rail passenger sector, with about 95 per cent of total passenger revenues. The balance of intercity rail passenger services is provided by Algoma Central, Ontario Northland and the Quebec North Shore & Labrador. During the latter part of 2002, BC Rail ceased to offer passenger services. It will continue to offer a rail shuttle service to a number of communities solely dependent on access by rail. Amtrak, the U.S. passenger rail corporation, offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail). Seasonal services are provided between Vancouver and Calgary and Jasper by the Great Canadian Railtour Company.

TABLE 6-3: RAILWAY REVENUES, 2000 AND 2001

(Millions of dollars)

	2000	*2001*
CN	3,880	3,917
CPR	2,945	2,950
VIA Rail	387	399
Subtotal Class I	**7,212**	**7,266**
Regional[1]	519	495
Shortlines[1]	369	384
Total	**8,101**	**8,145**

[1] Estimated for several carriers.

Source: Transport Canada, Statistics Canada

EMPLOYMENT

As can be seen in Addendum Table A6-4, the level of railway employment has been declining at a significant rate for many years. Between 1990 and 2001, railway employment fell at a rate of 4.7 per cent annually, from more than 67,000 to less than 40,000 in 2001. Class I carriers experienced a decline in employment of 44 per cent over this period, or minus 5.2 per cent per year. Regional rail carriers also experienced reductions in employment, albeit at a lower rate (minus 3.7 per cent) and from a smaller base (about 5,600 in 1990 to 3,750 in 2001). In contrast, the shortline sector experienced an increase in employment levels of 260 per cent, or an annual growth rate of 12.4 per cent. In 2001, the shortline sector employed approximately 2,000 people. Consistent with these changes are the relative levels of participation in the rail sector by each class of carrier. The Class I carriers dropped from about 91 per cent of total rail industry employment in 1990 to about 85 per cent in 2001. Regional rail employment stayed roughly the same in relative terms, while shortline employment grew from a virtually non-existent proportion to about 5 per cent of the total rail industry employment.

Table 6-4 compares the level of employment in the rail industry in 2000 and 2001.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2000 AND 2001

	2000	*2001*
Class I	35,422	34,016
Regional[1]	3,674	3,710
Shortlines[1]	1,803	2,064
Total	**40,899**	**39,790**

[1] Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

Class I railways (including VIA Rail) consumed about 1.76 billion litres of fuel in 1990 and 1.77 billion litres in 2001, as can be seen in Addendum Table A6-5. Over this same period, however, output in terms of revenue tonne-kilometres (RTKms) increased by 30 per cent, from about 225 billion to about 293 billion RTKms, as can be seen in Addendum Table A6-6. The Class I carriers have therefore significantly increased their fuel efficiency, although they still accounted for 88.4 per cent of total sector fuel consumption in 2001. This increasing fuel efficiency is due largely to important investments by CN and CPR in new locomotive replacement programs in the latter half of the 1990s, to changes in operating practices, and to a reduction in operations over low-density lines, which for the most part were transferred to other operators.

Table 6-5 compares output in the railway sector in 2000 and 2001.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2000 AND 2001

	2000	*2001*
Class I	291,678.5	292,916.6
Regional[1]	23,273.4	20,847.5
Shortlines[1]	8,638.3	8,719.8
Total	**323,590.2**	**322,483.9**

[1] Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Table 6-6 compares fuel consumption in the railway sector in 2000 and 2001.

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2000 AND 2001

(Millions of litres)

	2000	*2001*
Class I	1,762	1,772
Regional[1]	145	144
Shortlines[1]	87	89
Total	**1,993**	**2,005**

[1] Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Regional railway fuel consumption and output have both remained relatively stable in recent years. Fuel efficiency of regional railways has been higher than Class I railways until recently, but this level of performance by regional railways has been due largely to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway, which, as a result of the nature of its operations, has experienced fuel efficiencies almost double the industry norm.

FREIGHT TRANSPORTATION

The overall output of railways operating in Canada has been increasing since 1998, and it continued to increase slightly from 2000 to 2001 due to CN's 1.1 per cent increase to 168.1 billion tonne-kilometres. CPR's output remained similar to that of 2000, at 124.8 billion tonne-kilometres. Class II carriers reported a combined output of 28.4 billion tonne-kilometres, a decrease of almost four per cent from 2000. This was the first decrease of Class II carrier output since 1998, and was largely due to a decline in iron ore traffic in 2001.

Since 1996, movements of traffic forwarded to CN and CPR from Class II carriers have increased. From 2000 to 2001, however, such movements decreased by 3.6 per cent, from 19 to 18.3 million tonnes, due mainly to a drop in coal traffic from BC Rail. Movements whereby Class II carriers received traffic from CN and CPR remained steady at 11.2 million tonnes in 2001, putting a halt to the increasing trend since 1996. Traffic that originated on a Class II carrier, and was then forwarded to CN or CPR and subsequently forwarded to another Class II carrier to be terminated, totalled 1.45 million tonnes in 2001. The latter traffic, because it involves a bridge movement over CN or CPR, has both a forwarded and received component and would be double-counted if it was to be included in either forwarded or received traffic. Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1990.

Based on three quarters of data for 2002, CN output is expected to remain near 168 billion tonne-kilometres and CPR output is expected to decrease slightly to 121 billion tonne-kilometres. Output of Class II carriers is estimated to have decreased slightly to just over 20 billion tonne-kilometres.

RAIL FREIGHT TRAFFIC — COMMODITIES

As shown in Addendum Table A6-9, annual rail loadings for 2002 decreased slightly to 261 million tonnes (not including receipts from U.S. connections). Volumes in Western Canada dropped 4 per cent to just below 140 million tonnes, while volumes in Eastern Canada increased four per cent to almost 122 million tonnes. Principal commodities loaded in Western Canada included coal, forest products, fertilizer materials and grain, while dominant loadings in Eastern Canada were iron ore, other ores and mine products, forest products and intermodal shipments.

GRAIN

Grain shipments decreased in 1998 and 1999 to as low as 26.5 million tonnes and then rose to just over 30 million tonnes in 2000 and 2001. In 2002, grain shipments fell again, dropping by 28 per cent to 22 million tonnes. Shipments dropped 25 per cent in the West and 14 per cent in the East.

COAL AND COKE

Coal and coke shipments experienced a significant increase in 1999, but this commodity group dropped 11 per cent in 2002 to just below 37 million tonnes. This is the lowest volume reported for this commodity group since 1993.

FOREST PRODUCTS

Following a decline to just above 16 million tonnes in 1998, volumes of non-processed forest products remained steady until 2002, when shipments of this commodity increased 16 per cent to 19 million tonnes. In contrast, the volume of processed forest products has increased each year, reaching nearly 26 million tonnes in 2002. The net result has been a relatively stable volume of forest products hovering around 40 million tonnes, until 2002 when loadings reached 45 million tonnes.

ORES AND MINE PRODUCTS

Following a decline experienced the year before, shipments of iron ore increased four per cent to 30 million tonnes in 2002. Other ores and mine products continued to increase, up one per cent to 25.4 million tonnes in 2002.

FERTILIZER MATERIALS

Although shipments of fertilizer materials dropped in 2001 to the lowest value since 1994 at 24.5 million tonnes, they rose almost seven per cent to 26.1 million tonnes in 2002. Potash, sulphur and phosphate rock all experienced an increase from 2001.

INDUSTRIAL PRODUCTS

Chemicals, the largest commodity of this group, increased 5.3 per cent to 15 million tonnes. Metals increased almost 10 per cent to 10.6 million tonnes and automotive increased 19 per cent to just below six million tonnes. Petroleum products decreased six per cent to 11.3 million tonnes, bringing to a halt the increasing trend since 1997.

INTERMODAL

Between 1996 and 2001, CN and CPR intermodal tonnage grew by 6.7 million tonnes, for an average annual growth rate of 6.5 per cent. North American intermodal traffic was very robust, as growth exceeded eight per cent per year over the same five-year period. These trends are evident in Addendum Figure A6-1. As seen in Addendum Figure A6-2, Canadian origin–destination volumes increased at an even higher average annual growth rate of 11 per cent over the five-year period. There was a significant difference in growth between rail intermodal exports and imports to/from offshore regions: exports increased by an annual average of 1.7 per cent, while imports grew by 7.7 per cent annually.

Compared with the historical trend, growth in total rail intermodal volumes was considerably slower between 2000 and 2001 (2.5 per cent); however, this was mostly due to the flat performance of both import and export volumes. North American traffic volumes remained strong, increasing by 8.4 per cent and accounting for 46 per cent of total rail intermodal volumes, as seen in Addendum Figure A6-3. Canadian origin/destination volumes increased by 9.3 per cent during the year, making up 33 per cent of total market share.

As seen in Addendum Figure A6-4, containers on flat cars (COFC) continued to increase their market share, accounting for more than 92 per cent of total intermodal volumes in 2001. This is up considerably from 1996, when COFC only accounted for 77 per cent of total intermodal traffic. This increase in COFC share came at the expense of trailer on flat car (TOFC) volumes, which decreased proportionately.

RAIL FREIGHT TRAFFIC BETWEEN CANADA AND THE UNITED STATES

Addendum Table A6-10 shows rail export and import volume by commodity since 1996. Export rail tonnage increased slightly to 65.2 million tonnes in 2002, continuing the increasing trend since 1996. Forest products remained the largest contributor to export tonnage, increasing to 24.8 million tonnes. Other major export commodities included chemicals and fertilizer materials, accounting for 17.8 million tonnes, or 27 per cent of total export tonnage in 2002. The largest change was experienced by grain, which dropped 24 per cent to 3.9 million tonnes, placing exports of metals as the third-largest commodity with 4.2 million tonnes.

After exports of coal volume almost tripled in 2000 and increased again in 2001, they decreased slightly to 1.4 million tonnes in 2002, accounting for two per cent of total export volume. Exports of iron ore took another large jump, almost tripling to 405,000 tonnes in 2002. This change, however, is contrary to overall movements of iron ore which are predominantly exported by marine.

Addendum Table A6-11 shows rail export and import value by commodity since 1996. Consistently, automotive has been the largest contributor to the value of exports. In 2002, this commodity accounted for almost 55 per cent, followed by forest products at 20 per cent. Like volume, the value of exports increased slightly to $75.6 billion.

Ontario remained the largest contributor to rail export volume and value, originating 27.4 per cent of export volume (17.9 million tonnes) and 67.9 per cent of export value ($51.4 billion) in 2002.

British Columbia and Saskatchewan were the other major contributors of export volume, originating a combined 22.8 million tonnes, or 35 per cent of total exports. Quebec and British Columbia followed Ontario with a combined 19.1 per cent share of export value, totalling $14.4 billion. These values are observed in Addendum tables A6-12 and A6-13, which show export volume and value by province of origin.

Import rail tonnage had been increasing at a larger rate than exports since 1996, but in 2002 experienced a slight decline to 19.6 million tonnes. Major commodities included chemicals, grains, ores and mine products and other agricultural and food products. In combination, these commodities accounted for 63 per cent of total import volume.

Although not as large as the year before, imports of grains rose 30 per cent in 2002 to 2.4 million tonnes.

Automotive and chemicals remained the top commodities in terms of value, accounting for 56 and 21 per cent of total imports, respectively, or a combined $16.5 billion.

As seen in Addendum Table A6-14, Ontario cleared 47 per cent of imports, 9.3 million tonnes in total. Quebec and British Columbia cleared a combined 4.8 million tonnes. In terms of value, Ontario was also the dominant province of clearance with $15.2 billion, up 15 per cent from 2001, as seen in Addendum Table A6-15.

Further details on exports and imports can be seen in Addendum tables A6-16 to A6-19. These tables show major commodities originating from and cleared in the provinces mentioned above.

BORDER CROSSING POINTS

As seen in Addendum Table A6-20, Fort Frances and Sarnia, both in Ontario, were the dominant border crossing points for rail exports by volume, accounting for 22 per cent (14.3 million tonnes) and 17 per cent (11 million tonnes) of exports, respectively, in 2002. Forest products, fertilizer materials and chemicals were the major commodities exported at these border points.

As seen in Addendum Table A6-21, Sarnia, Windsor and Fort Erie were the dominant border crossing points by value of exports (accounting for 75 per cent of total exports), due largely to movements of automotive products. Other commodities exported at these locations that were significant contributors to export value include metals and forest products.

Sarnia was also the leading border crossing point for import tonnage, accounting for 15 per cent of total rail import volume in 2002 (2.9 million tonnes), as shown in Addendum Table A6-22. The major commodities imported at Sarnia were chemicals, agricultural products and food and grains.

Rail imports cleared at Calgary increased in 2002 due to the continuing rise of corn shipments from the U.S., as well as a slight increase in iron and steel imports. A change in the port of clearance from Huntingdon to Vancouver for limestone flux resulted in a significant decline and rise of tonnage at these locations. Other major locations as port of clearance included Toronto, Sault Ste. Marie and Montreal. Windsor, by far, was the leading border crossing point by value of imports, largely as a result of being the dominant border crossing point of automotive products. Just over 16 per cent of imports by value entered Canada at this location ($3.5 billion), as seen in Addendum Table A6-23.

OVERSEAS TRADE

Class I railways carried a total of 91 million tonnes of goods to and from Canadian ports in 2001, a 5.3 per cent decrease from 2000. Traffic in transit to and from the United States decreased by six per cent in 2001 to 3.9 million tonnes. Addendum Table A6-24 shows the fluctuation of rail–marine exports and imports since 1996.

British Columbia, Alberta and Saskatchewan continued to be the major contributors to rail–marine exports in 2001, with a combined 69.3 million tonnes, although both Alberta and Saskatchewan experienced a drop in export volume. Addendum Table A6-25 shows rail–marine exports since 1996 for all provinces of origin and the U.S.

Coal traffic remained steady at slightly above 31 million tonnes in 2001, while rail–marine exports of grain decreased by 6.5 per cent to just under 20 million tonnes. Other major commodities included agricultural and food products, and fertilizer materials, which also declined in 2001. Addendum Table A6-26 shows rail–marine exports by commodity since 1996.

Rail–marine imports of Class I carriers decreased slightly in 2001 to 7.7 million tonnes, but the portion of intermodal traffic continued to increase to 90 per cent of total imports.

Ontario and Quebec remained the top two destination provinces for rail–marine imports, totalling 4.6 million tonnes in 2001 (59 per cent of the total). The volume of goods destined for Alberta continued to drop, down 21 per cent to 0.5 million tonnes in 2001. Addendum Table A6-27 shows rail–marine imports since 1996 for all destination provinces and the U.S.

Fertilizer materials continued to decrease substantially to 96,000 tonnes in 2001, while petroleum products experienced a dramatic increase from 3,000 tonnes in 2000 to 17,000 tonnes in 2001. Addendum Table A6-28 shows rail–marine imports by commodity since 1996.

PASSENGER TRAFFIC

As seen in Addendum Table A6-29, total passengers carried and passenger-kilometres for intercity rail traffic increased by 1.4 per cent in 2001 from 2000. The number of VIA Rail passengers increased by 1.8 per cent to 3.9 million and passenger-kilometres increased by 1.9 per cent to 1.5 billion. Class II carriers with intercity services included in Addendum Table A6-29 are Algoma Central, BC Rail, Ontario Northland and the Quebec North Shore & Labrador Railway. Unlike VIA Rail, these carriers experienced a combined 2.2 per cent decrease to 0.35 million passengers and a 5.8 per cent decrease in passenger-kilometres to 88 million. These values are expected to decrease again in 2002 due to BC Rail's decision to drop services on its passenger routes.

The Great Canadian Railtour Company provides a seasonal rail passenger service between Vancouver, Calgary and Jasper. Also, the U.S. passenger rail corporation, Amtrak, provides service to Toronto, Montreal and Vancouver in cooperation with VIA Rail.

Commuter rail traffic in Toronto, Montreal and Vancouver increased 7 per cent, reaching 50 million passengers in 2002. This change reflects an increase in Toronto's GO Transit and Montreal's Agence Métropolitaine de Montréal (AMT) riderships. Once again, GO Transit represented 70 per cent of commuter rail traffic. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT CLASS I RAILWAYS

From 1996 to 2001, the revenues of CN and CPR operations in Canada grew, on average, by 2.2 per cent a year. Almost 60 per cent of the revenue growth of these railways came from intermodal services, which in 1996 were generating about one fifth of their total revenues. The growth in railway revenues was achieved in the context of a continuous decline in freight rates, 0.8 per cent per year since 1996. By commodity groupings, the freight rates of mineral bulk commodities showed the strongest declines, at 3.6 per cent per year. Since 1998, reductions of rail freight rates for agricultural products have been second only to those of mineral bulk commodities.

The reduction of rail freight rates has been made possible by the strong productivity gains of the industry, which have averaged growth of 4.3 per cent a year since 1996. In 2001, productivity increased by 2.3 per cent, after two years of unparalleled growth from 1998 to 2000 (18 per cent). These productivity gains allowed the railways to reduce their unit cost annually by 3.2 per cent between 1996 and 2001.

The productivity gains have also allowed CN and CPR to improve their financial results. Operating income in 2001 reached $1.4 billion, with the operating ratio declining for the sixth consecutive year. In 2002 (based on the first three quarters' results), the combined operating ratio of the two railways fell to 75 per cent. The shortline railways maintained their financial returns in dollar terms but these were below the level necessary to renew their assets (see Table 6-7). See tables A2-61 to A2-64 in the Addendum for details.

TABLE 6-7: FINANCIAL INDICATORS OF SHORTLINE[1] RAILWAYS

	1999	*2000*	*2001*
Net Fixed Assets in $M	349.7	481.1	505.6
Operating Revenues in $M	285.8	320.0	356.8
Operating Expenses in $M	248.7	285.2	322.2
Net Income in $M	37.1	34.8	34.6
ROA in %	10.6	7.2	6.8
CTA's Approved Cost of Capital for CPR	10.9	11.8	11.4

Note: ROA = Return on Assets. CTA = Canadian Transportation Agency.

[1] Class II Railroads, except Quebec North Shore Railway, Ontario Northlands and BC Rail.

Source: Transport Canada, based on Statistics Canada files and Canadian Transportation Agency (CTA)

VIA RAIL

Since 1996, VIA Rail's revenues from its operations have grown by 7.1 per cent per year. This growth resulted from a combination of prices rising by 5.1 per cent and output rising by 1.8 per cent. In 2002, the increases in prices and traffic were slower, at 4.1 and 2.4 per cent, respectively.

In 2000, VIA Rail's hedging strategies limited fuel price increases to 16 per cent. While fuel prices rose by less than six per cent for rail freight carriers in 2001, they rose by 24 per cent for VIA Rail. In 2001, VIA Rail's overall productivity declined by one per cent, with capital productivity showing the largest decline, which was due to the first phase of its capital expansion program. Total unit costs increased by 2.2 per cent. Since 1996, the annual productivity gains of VIA Rail have averaged 1.5 per cent a year, whereas unit costs have declined by 0.7 per cent annually.

VIA Rail recovered 47 per cent of its costs in 2001, compared with 23 per cent in 1991; more than half of this improvement came from cost reductions.

For more information on price, productivity and performance in the rail sector, see tables A2-61 to A2-64 in the Addendum.

ROAD TRANSPORTATION

7

The U.S. economic slowdown affected Canadian trucking firms.
Urban transit ridership decreased in 2001,
while the share of light trucks and vans
in the light vehicle fleet continued to increase.

MAJOR EVENTS IN 2002

REGULATIONS

VEHICLE WEIGHTS AND DIMENSIONS

In early 2002, the Atlantic Provinces implemented new vehicle weight and dimension regulations that established common weight and dimension limits for all new vehicles starting with model year 2003. Further changes will be introduced over a transition period extending until December 2009 to allow trucking companies to phase out non-complying equipment. Also, in Atlantic Canada, public consultations were initiated on harmonized special permit conditions for movements within the region of oversize and overweight loads.

Ontario continued its policy reform initiative for vehicle weights and dimensions by focusing on the use of liftable axles on end-dump semi-trailers and liftable axles on multi-axle semi-trailers and on double trailer combinations.

The Ministers responsible for transportation in the four western provinces endorsed two Memoranda of Understanding: one to standardize the conditions applicable to special permits for movement of overweight and/or overdimensional indivisible loads; and one to harmonize special permit conditions for overdimensional movements of hay bales within the region.

SAFETY REGULATIONS

Nova Scotia published regulations to bring commercial van and small bus services under a safety regime based on the National Safety Code for Motor Carriers. The normal threshold for National Safety Code standards is for vehicles carrying 10 or more passengers, including the driver. The Nova Scotia regulations provide, among other things, for periodic inspection of vehicles and they bring the drivers under the National Safety Code commercial driver hours of service regime. The regulations took effect at the beginning of 2003.

REPORT OF SENATE STANDING COMMITTEE ON TRANSPORT AND COMMUNICATIONS

After reviewing the issues facing the Canadian bus industry, the Senate Standing Committee on Transport and Communications tabled its report entitled *Intercity Bus Service in Canada* in December 2002.

The Committee made a number of recommendations:

- To reverse the onus, over a five-year transition period, in the entry test to the opponents to prove that a new service is not in the public interest.
- To implement, with respect to the concerns of possible service loss on low-density and rural routes from liberalized entry, a modest transitional (over five years) federal subsidy program co-funded with the provinces/territories, municipalities and local businesses, aimed specifically at community bus services in rural areas.
- To review, at the end of the five years, the entry controls to determine whether a further liberalization of entry controls would be required.

The Committee also made the following recommendations: a federal–provincial review of the National Safety Code provisions to ensure coverage of small buses and vans used commercially; a re-appraisal of the problems of bus accessibility; federal–provincial collaboration to examine how Canada could fully benefit from the environmental advantages of bus transportation; and possible federal implementation of the key provisions even without consensus among jurisdictions and stakeholders.

INFRASTRUCTURE

ROAD NETWORK

The Canadian road network exceeded 1.4 million two-lane equivalent kilometres. The network consisted of 110,000 kilometres of freeway and primary highway, 115,000 kilometres of secondary highways and other arterial roads, and more than 1.2 million kilometres of local streets and rural connector roads. For a breakdown of Canada's road network by province, see Table A7-1 in the Addendum.

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

The trucking industry includes for-hire carriers, owner-operators, private carriers and courier firms. It generated an estimated $52.5 billion in revenues in 2001.

For-hire trucking firms haul freight owned by others for compensation. They offer either truckload (TL) or less-than-truckload (LTL) services, or a mix of the two. For-hire trucking services can be further categorized according to the types of freight carried, such as general freight services, household goods services, liquid and dry bulk services, forest product services and specialized freight services. For-hire trucking firms alone account for more than 40 per cent of the Gross Domestic Product of the whole transportation sector. There were approximately 9,700 for-hire trucking firms in Canada in 2001.

The top ten for-hire trucking companies[1] in Canada, based on total number of vehicles (tractors/trailers) in their fleet, are Trimac Transportation Services (Calgary, Alberta, 7,052 vehicles), TransForce (Montreal, Quebec, 6,825 vehicles), Vitran Corporation, (Toronto, Ontario, 5,820 vehicles), SLH Transport (Kingston, Ontario, 4,295 vehicles), TransX (Winnipeg, Manitoba, 4,206 vehicles), Robert Transport / Groupe Robert (Boucherville, Quebec, 4,010 vehicles), Paul's Hauling Group (Winnipeg, Manitoba, 3,756), Mullen Transportation Inc. (Aldersyde, Alberta, 3,701 vehicles), Day & Ross Transportation Group (Hartland, New Brunswick, 3,384 vehicles) and Clarke Inc. (Toronto, Ontario, 3,150 vehicles).

A number of strategic alliances, mergers and acquisitions of motor carriers took place during 2002. Mullen Transportation acquired Temor Oil Services (1974), the largest transporter of crude oil and provider of fluid hauling services to the heavy oil industry in the Lloydminster, Alberta, area. TransForce acquired several carriers: Canpar Transport, a non-expedited parcel-delivery company based in Mississauga; Japiro Transport, a small LTL and truckload carrier operating in Quebec; Tri-Line Expressways Ltd.'s logistics and freight brokerage business in Mississauga; and Retex Transport, a specialized explosives, petroleum products and propane carrier based in Quebec City. Contrans acquired the trucking assets of Tri-Line Expressways Ltd., the flatbed and general freight division of TCT Logistics, which entered receivership in January 2002.

Owner-operators are small independent for-hire operators who own or lease their own truck and who haul trailers or other equipment for a carrier. Owner-operators work directly for a shipper and for either private or for-hire carriers, or both. The use of owner-operators allows trucking companies to expand or contract capacity as market conditions change. There were approximately 36,000 owner-operators in Canada in 2000.

Couriers include for-hire operators providing overnight or later delivery and same-day messenger delivery. In 2001, the courier industry generated estimated total revenues of $5.0 billion on average volumes of 2.1 million packages per day. There are approximately 17,200 small courier companies that generate revenues less than $1 million per year. These small companies account for 97 per cent of the total number of courier companies yet account for only 14 per cent of total courier revenues.

Trucking bankruptcies reported in any given year come from the for-hire segment of the industry. For the number of bankruptcies in the trucking industry from 1990 to 2002, broken down by region, see Table A7-2 in the Addendum. In 2002, there were 799 trucking bankruptcies, 14 per cent fewer than in 2001. This was the first decrease in the last four years. The most significant decrease in the reported number of bankruptcies in trucking was in Ontario (from 329 to 229) and in Quebec (from 159 to 131). The Atlantic Provinces had five fewer trucking bankruptcies in 2002 than in 2001. The Prairie Provinces and British Columbia (including the territories) had a small increase.

---

[1] Source: *Today's Trucking*, March 2002

Private trucking consists of those companies who primarily haul their own freight but who may, from time to time, haul other people's goods for compensation. Most companies that own trucks to haul their own products do not ordinarily record revenues for this operation. So the estimate of $24.4 billion for private trucking is better viewed as the operating costs of trucks for these companies. Private trucking dominates in the urban and local haulage areas but its market share quickly diminishes as haul distances increase.

General freight carriers generated 58 per cent of the total revenues of large for-hire trucking firms in 2001. The share of revenues of specialized freight carriers has been increasing in recent years. Table 7-1 shows the revenues of large for-hire trucking firms by market segment from 1999 to 2001.

Total for-hire trucking revenues can be broken down by the relative size of carriers. Size can be measured by four categories of annual revenues: $25 million or more, $12 to $25 million, $1 to $12 million, and less than $1 million. As Table 7-2 shows, this breakdown for 2000 and 2001 was relatively stable. Table A7-3 in the Addendum shows the relative size of carriers from 1991 to 2001.

TABLE 7-1: FOR-HIRE CARRIER REVENUES BY MARKET SEGMENT, 1999 – 2001

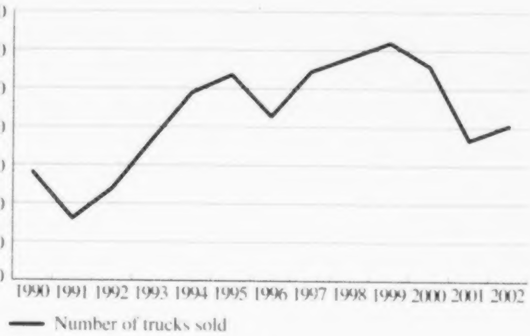
	Revenues (Millions of dollars)			*Per cent of Total*		
	1999	*2000*	*2001*	*1999*	*2000*	*2001*
General freight	10,675.9	12,092.3	12,761.8	63.0	62.1	60.8
Other special freight	2,329.1	3,002.8	3,456.3	13.7	15.4	16.5
Liquid bulk	1,152.2	1,640.2	1,654.5	6.8	8.4	7.9
Dry bulk	1,365.1	1,138.8	1,470.8	8.1	5.8	7.0
Forest products	888.6	889.4	1,030.2	5.2	4.6	4.9
Household goods movers	532.5	705.6	629.1	3.1	3.6	3.0
Total	**16,943.4**	**19,469.0**	**21,002.8**	**100.0**	**100.0**	**100.0**

Note: For-hire trucking firms with annual earnings of $1 million or more.

Source: Canadian Vehicle Manufacturers Association

Class 8 trucks, used in intercity for-hire operations, have seen yearly fluctuations in reported sales that have been driven by a number of factors, including the profitability of carriers, the demand for trucking services, the useful life of trucks, and carriers' fleet replacement policy/cycle. As Figure 7-1 shows, the 2001 and 2002 sales of Class 8 trucks reported reflect to some extent the economic slowdown of the U.S. economy and its impact on transborder trucking demand.

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2002



Source: Canadian Vehicle Manufacturers' Association

BUS INDUSTRY

The Canadian bus industry can be divided into three principal sectors: transit, school and intercity/charter/tour. Intercity/charter/tour could perhaps best be defined as including all bus service that neither transports pupils nor offers transit or paratransit service. Traditionally, the main characteristic distinguishing intercity and charter operators from the other bus sectors has been the use of motor coaches (as opposed to school or transit buses). The school and intercity/charter/tour sectors are closely interrelated, and corporate ownership cuts across sectoral lines. Carriers in all sectors and of all sizes often offer a mix of services.

TABLE 7-2: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIER, 2000 – 2001

	Small Carriers (Less than $1 million)		*Medium Carriers ($1 – 12 million)*		*Large Carriers ($12 – 25 million)*		*Top Carriers (Over $25 million)*		*Grand Total*
Year	*Revenue (Millions of dollars)*	*Share (Per cent of total)*	*Revenue (Millions of dollars)*	*Share (Per cent of total)*	*Revenue (Millions of dollars)*	*Share (Per cent of total)*	*Revenue (Millions of dollars)*	*Share (Per cent of total)*	*Revenue (Millions of dollars)*
2000	2,634	11.9	8,246	37.3	4,660	21.1	6,562	29.7	22,103
2001	2,750	11.6	9,834	41.4	4,506	19.0	6,662	28.0	23,753

Note: Including motor for-hire carriers of freight earning annual revenues of $30,000 or more.

Sources: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCF) 1999 – 2001; 2001 small for-hire carriers data estimated

Scheduled Intercity Bus Carriers — These carriers primarily operate scheduled services between two or more urban areas. Such services link all Canadian provinces and territories except Nunavut. Through its ownership of Greyhound, Grey Goose, Voyageur Colonial, Penetang-Midland Coach Lines and a few other smaller companies, Laidlaw is the largest scheduled intercity operator in Canada. Other major operators include Coach Canada, Orleans Express, SMT/Acadian Lines and Saskatchewan Transportation. Smaller regional operators include Ontario Northland, Les Autobus Maheux, Intercar, and DRL. Almost all scheduled intercity operators provide at least some charter service.

Charter/Tour/Shuttle Carriers — Charter service is characterized by the rental of a bus to a person or group where all passengers embark and disembark at the same point. Tour carriers primarily provide sightseeing services over fixed routes and sell individual seats. Shuttle carriers are primarily involved in providing service to airports and rail terminals. Some of the larger charter/tour carriers include Brewster Transportation & Tours, Charter Bus Lines of British Columbia, International Stage Lines Inc., Pacific Western Transportation Ltd. and Coach Canada. A single carrier frequently offers both charter and shuttle services and it is not uncommon for carriers in this group to also provide school bus service.

School Service — As the name implies, school bus carriers provide bus service to transport students to and from school. Most school bus operators also provide some charter service. Laidlaw is the largest school bus carrier in Canada.

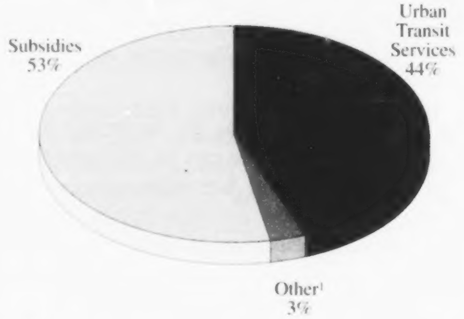
Urban Transit Service — All major cities in Canada have some form of public transit service, and in terms of revenues, urban transit represents the largest component of Canada's bus industry. Municipal and provincial governments subsidize urban transit services. Some urban transit operators offer school bus and charter services as well as services to travellers with disabilities.

BUS TRANSPORTATION

The Canadian bus industry is composed of approximately 1,000 operators who collectively move more than 1.5 billion passengers each year. In 2000, the industry generated more than $6.2 billion in total revenues, including subsidies. In 2001, only a partial view of the industry was known, as results of a new survey on passenger bus and urban transit introduced by Statistics Canada in 2002 were still pending.

The bus industry can be looked at by type of establishment (i.e. principal company activity) and by the type of bus service provided. Urban transit represented the largest sector, accounting for 68 per cent of total bus revenues in 2000 (including subsidies), or 50 per cent of total bus revenues (excluding subsidies). In 2001, urban transit revenues totalled $4.4 billion, up 3.3 per cent from 2000. Subsidies were the main source of revenues, with 53 per cent of total urban transit revenues, as shown in Figure 7-2.

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2001



[1] Other includes charter, school bus and other passenger bus services.

Source: Transport Canada, using Statistics Canada / Canadian Urban Transit Association (CUTA) data

From 1995 to 2001, urban transit operators' operating revenues grew at an average annual rate of 4.8 per cent, while subsidies rose at an annual rate of 2.5 per cent over the same period. As a result, the share of subsidies in total revenues decreased from 57 to 53 per cent over this period.

In terms of passengers using urban transit, the long-term trend shows that an annual increase of 1.2 per cent happened in the 1980s to reach a peak of 1,528 million passengers in 1990; then a steady decrease was recorded to a low of 1,353 million passengers (1996) before recovering to register 1,481 million passengers in 2001.

A similar pattern is seen for distance travelled by urban transit vehicles. Vehicle-kilometres jumped from 716.4 million to 814.4 million from 1996 to 2001, an average annual increase of 2.6 per cent.

Since 1996, the urban transit fleet increased by almost 12 per cent to a record high of 14,560 vehicles in 2001. The biggest change in the fleet composition over this period was the replacement of standard buses by more accessible, low-floor buses.

Full-time employment in urban transit decreased from 37,494 to 35,867 employees over the 1995 – 1998 period before increasing to 39,460 employees in 2001. The average salary, including benefits, for employees was estimated at $54,012 in 2001.

For more information on the bus industry, see tables A7-4 to A7-7 in the Addendum.

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

In the 10 provinces, 16.8 million light vehicles (i.e. vehicles with a gross weight less than 4,500 kilograms) were in scope for the 2001 Canadian Vehicle Survey (CVS). Of this total, 10.5 million were classified as passenger cars and station wagons, 2.3 million vehicles listed as vans, 2.5 million vehicles were defined as pickup trucks, and 1.3 million were classified as sport-utility vehicles (SUVs). As a group, light trucks, SUVs and vans represented 37 per cent of the light vehicle fleet. As Table 7-3 shows, vans and light trucks were on average driven more than passenger cars, accounting for 41 per cent of vehicle-kilometres. Vans and light trucks were driven on average 19,000 kilometres per year, while cars and station wagons were driven about 15,500 kilometres, a difference of more than 20 per cent. Vans and light trucks also had higher vehicle occupancies than passenger cars, accounting for 43 per cent of passenger-kilometres. This works out to an average occupancy of 1.7 persons per light truck or van, slightly higher than for passenger cars and station wagons.

As expected, there was a wide gap in fuel efficiency between cars and the heavier trucks and vans. Calculated fuel efficiency for cars and station wagons averaged about 10 litres per 100 kilometres, which was about 25 per cent lower than the corresponding consumption rate of 13 litres per 100 kilometres for vans and trucks.

With few exceptions, the distribution of light vehicles, vehicle-kilometres and passenger-kilometres by province/territory broadly followed the distribution of population. In terms of motorization (number of vehicles per capita), most jurisdictions were clustered around the overall average of about 540 vehicles per 1,000 people, except for Alberta and Saskatchewan, whose rate was more than 10 per cent higher, and Newfoundland and Labrador, whose rate was 20 per cent below the national average. Annual average vehicle use and average vehicle occupancy were tightly clustered around the national averages of 17,000 kilometres per vehicle and 1.6 persons per vehicle. Average light vehicle fuel efficiency did show some variation across jurisdictions: the Atlantic Provinces had an average fuel consumption at least 10 per cent higher than the national average, varying between 12 and 15 litres per 100 kilometres. Quebec and Ontario had the lowest fuel consumption rates, each below 11 litres per 100 kilometres, while the Western provinces clustered around the national average, with the exception of British Columbia, whose rate was more than 13 litres per 100 kilometres.

TABLE 7-3: DISTRIBUTION OF VEHICLE ACTIVITY BY VEHICLE BODY, 2001

Light trucks/vans

	Car	*Station wagon*	*Van*	*Sport-utility*	*Pickup truck*	*Subtotal*	***Total***
Vehicles (millions)	10.2	0.4	2.4	1.3	2.6	6.2	**16.8**
Per cent share	60.5	2.2	14.1	7.6	15.5	37.2	**100.0**
Vehicle-km (billions)	158.9	5.6	46.9	24.5	47.4	118.8	**283.2**
Per cent share	56.1	2.0	16.5	8.6	16.7	41.9	**100.0**
Passenger-km (billions)	248.4	10.1	91.5	41.9	69.3	202.7	**461.1**
Per cent share	53.9	2.2	19.8	9.1	15.0	44.0	**100.0**
Litres of fuel (billions)	15.7	0.6	6.1	3.0	6.5	15.7	**32.0**
Per cent share	49.2	1.8	19.0	9.5	20.5	49.0	**100.0**
Average distance driven (thousands of kilometres)	15.6	15.0	19.8	19.3	18.2	19.0	**16.9**
Persons per vehicle	1.56	1.80	1.95	1.71	1.46	1.71	**1.63**
Fuel efficiency (L/100km)	9.9	10.4	13.0	12.4	13.8	13.2	**11.3**

Note: Figures in this table exclude the Territories.

Source: Canadian Vehicle Survey, Statistics Canada and Transport Canada calculations

Table 7-4 compares the fuel efficiency of vehicles by province in 2001.

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET

The Canadian Vehicle Survey provides information on the heavy truck fleet and its use characteristics. In 2001, more than 580,000 trucks were registered with a gross vehicle weight of at least 4,500 kilograms. As Table 7-5 shows, this fleet was split between 330,000 medium trucks weighing between 4,500 and 15,000 kilograms and almost 254,000 Class 8 (heavy) trucks weighing more than 15,000 kilograms. Three quarters of the heavy truck fleet

TABLE 7-4: FUEL EFFICIENCY OF VEHICLES, 2001

	Vehicles (Thousands)	*Vehicle-kilometres (Billions)*	*Passenger-kilometres (Billions)*	*Litres of fuel purchased (Billions)*	Averages *Vehicles per 1,000 population*	Averages *Average distance driven (Thousands)*	Averages *Passengers per vehicle*	Averages *Average fuel efficiency (L/100km)*
Newfoundland and Labrador	235	4.3	8.0	0.6	441	18.3	1.9	14.4
Prince Edward Island	72	1.2	1.8	0.2	521	16.0	1.5	15.0
Nova Scotia	510	9.0	15.3	1.2	541	17.7	1.7	12.9
New Brunswick	427	7.8	12.8	0.9	565	18.2	1.6	12.2
Quebec	3,789	65.5	101.1	6.7	511	17.3	1.5	10.2
Ontario	6,326	105.1	174.4	11.3	532	16.6	1.7	10.8
Manitoba	579	9.7	15.8	1.1	504	16.7	1.6	11.0
Saskatchewan	612	11.1	18.7	1.3	602	18.2	1.7	11.5
Alberta	1,974	35.3	58.4	3.9	645	17.9	1.7	11.0
British Columbia	2,226	33.8	54.4	4.5	543	15.2	1.6	13.4
Yukon	18	0.3	N/A	N/A	582	16.7	N/A	N/A
Northwest Territories	18	0.3	N/A	N/A	444	16.7	N/A	N/A
Nunavut	3	0.04	N/A	N/A	99	14.6	N/A	N/A
Canada	**16,791**	**283.4**	**460.6**	**31.7**	**540**	**16.9**	**1.6**	**11.2**
Percentage distribution		**Percentage distribution**				**Percentage of national average**		
Newfoundland and Labrador	1.4	1.5	1.7	2.0	81.7	108.2	114.1	128.9
Prince Edward Island	0.4	0.4	0.4	0.5	96.5	94.8	94.6	134.2
Nova Scotia	3.0	3.2	3.3	3.7	100.2	104.6	104.5	115.8
New Brunswick	2.5	2.7	2.8	3.0	104.7	107.8	101.0	108.9
Quebec	22.6	23.1	21.9	21.1	94.6	102.5	94.9	91.1
Ontario	37.7	37.1	37.9	35.8	98.5	98.4	102.1	96.5
Manitoba	3.4	3.4	3.4	3.4	93.4	98.9	100.4	98.7
Saskatchewan	3.6	3.9	4.1	4.0	111.5	107.7	103.6	102.8
Alberta	11.8	12.4	12.7	12.3	119.6	105.8	101.9	98.6
British Columbia	13.3	11.9	11.8	14.3	100.6	90.0	99.0	120.0
Yukon	0.1	0.1	N/A	N/A	107.8	98.7	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	82.2	98.8	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	18.3	86.7	N/A	N/A
Canada	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Canadian Vehicle Survey, Statistics Canada and Transport Canada calculations

TABLE 7-5: CANADA'S HEAVY TRUCK FLEET, 2001

	Vehicles *(Thousands)*		Vehicle-kilometres *(Millions)*		Percentage distribution *Vehicles*		Percentage distribution *Vehicle-kilometres*	
	Medium	*Heavy*	*Medium*	*Heavy*	*Medium*	*Heavy*	*Medium*	*Heavy*
Newfoundland and Labrador	3.6	2.5	121	164	1.1	1.0	1.9	0.9
Prince Edward Island	1.7	2.3	20	47	0.5	0.9	0.3	0.3
Nova Scotia	7.9	7.0	162	546	2.4	2.7	2.5	2.9
New Brunswick	7.7	3.8	173	128	2.3	1.5	2.7	0.7
Quebec	49.0	29.2	1,042	3,120	14.8	11.5	16.1	16.8
Ontario	72.2	97.8	1,916	8,202	21.9	38.6	29.6	44.2
Manitoba	8.6	11.8	201	1,332	2.6	4.7	3.1	7.2
Saskatchewan	43.8	21.6	478	987	13.3	8.5	7.4	5.3
Alberta	82.0	62.8	1,403	3,518	24.8	24.8	21.7	18.9
British Columbia	52.2	12.9	942	388	15.8	5.1	14.6	2.1
Yukon	0.8	0.7	9	61	0.2	0.3	0.1	0.3
Northwest Territories	0.6	1.0	9	85	0.2	0.4	0.1	0.5
Nunavut	0.2	0.1	1	-	0.08	0.04	0.02	0.00
Canada	**330.0**	**253.6**	**6,476**	**18,577**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Canadian Vehicle Survey, Statistics Canada and Transport Canada calculations

was concentrated in three provinces: Ontario with 40 per cent, Alberta with 25 per cent, and Quebec with 11.5 per cent. The medium-sized truck fleet was a little more evenly distributed with five provinces sharing about 90 per cent of the total. The distribution of vehicle-kilometres was heavily tilted in favour of heavy trucks with over 18 billion being performed in 2001, versus less than 6.5 billion for medium trucks. The distribution of heavy truck vehicle-kilometres was even more concentrated in Ontario, Alberta, and Quebec with these three provinces controlling 80 per cent of the kilometres driven.

In 2001, there was a wide variation in the average kilometres driven between medium and heavy trucks: on average, medium trucks were driven 20,000 kilometres, while heavy trucks were driven almost 75,000 kilometres. By province, the variation in the average kilometres heavy trucks were driven was huge, ranging from a low of 20,000 kilometres per vehicle in Prince Edward Island to more than 100,000 kilometres per vehicle in both Quebec and Manitoba. By contrast, medium truck use across the provinces clustered fairly closely around the national average.

CONFIGURATION

Table 7-6 breaks down truck vehicle-kilometres driven by type of vehicle configuration. Medium trucks were characterized by the straight truck configuration, as more than 80 per cent of the kilometres driven used this format. Heavy trucks, by contrast, were dominated by various tractor-trailer combinations; the most popular was a tractor and one trailer (the conventional 18 wheeler), which accounted for almost 65 per cent of the heavy truck vehicle-kilometres. Straight trucks performed only 15 per cent of the heavy truck vehicle-kilometres.

TABLE 7-6: VEHICLE-KILOMETRES DRIVEN BY TYPE OF VEHICLE CONFIGURATION, 2001

	Medium (Per cent)	*Heavy (Per cent)*
Straight truck	80.9	14.4
Tractor only	0.1	6.6
Tractor and 1 trailer	2.7	63.9
Tractor and 2 trailers	0.0	11.9
Tractor and 3 trailers	0.0	0.4
Other	16.3	2.8
	100.0	**100.0**

Source: Canadian Vehicle Survey, Statistics Canada and Transport Canada calculations

Table 7-7 shows the purpose that medium and heavy trucks were typically used for. Medium trucks were put to a mix of uses: carrying goods or equipment, a traditional freight-hauling role, accounted for about 50 per cent of the vehicle-kilometres, but non-freight carrying functions such as making service calls accounted for more than 40 per cent of the vehicle-kilometres. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private trucking business. Of the 6.5 billion vehicle-kilometres driven, about eight per cent were made empty.

The same cannot be said about the heavy truck fleet. Its use was dominated by the conventional goods-hauling role, with nearly 75 per cent of the vehicle-kilometres reported as being from carrying goods or equipment. Less than 10 per cent were for other work purposes and about 18 per cent of vehicle-kilometres were made empty.

TABLE 7-7: TYPICAL USE OF CANADA'S MEDIUM AND HEAVY TRUCKS, 2001

	Medium trucks		*Heavy trucks*	
	Vehicle-km (Thousands)	*Share (Per cent)*	*Vehicle-km (Thousands)*	*Share (Per cent)*
Carrying goods/ equipment	3,150	49	13,574	74
Empty	512	8	3,246	18
Other	2,793	43	1,612	9
Total	6,456	100	18,431	100

Source: Canadian Vehicle Survey, Statistics Canada and Transport Canada calculations

TRUCK TRAFFIC BY SECTOR

After a slowdown due to the 1990/91 recession, growth in for-hire trucking[2] traffic jumped from 70.6 to 170.9 billion tonne-kilometres from 1991 to 2001. The transborder sector dominated, with an average growth rate close to 14 per cent, more than twice the rate for domestic trucking activities, which was 6.3 per cent. The latter is a blend of intraprovincial and interprovincial activities, which grew at five per cent and almost seven per cent per year, respectively.

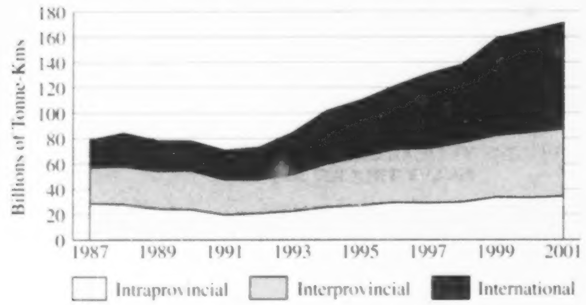
In terms of value, almost 65 per cent of Canada–U.S. trade moved by truck in 2001. Commodities shipped by truck from/to the United States amounted to $363 billion, driven by exports at $192 billion. Preliminary 2002 trade data show an increase of 2.3 per cent in the value of cargo carried by truck from/to the United States. A contributing factor to the strong transborder growth rate was a significant increase in the average distance travelled. In the last 15 years (1987 – 2001), the average distance travelled per trip by Canadian-domiciled trucks to and from the United States rose from 800 to 1,100 kilometres.

Figure 7-3 illustrates the growth of Canadian for-hire trucking traffic between 1987 and 2001. Table A7-8 in the Addendum provides the data in a tabular form.

---

[2] Including Canadian domiciled long-distance for-hire trucking firms with annual operating revenues of $1 million or more.

FIGURE 7-3: TOTAL FOR-HIRE TRUCKING TRAFFIC IN ANNUAL TONNE-KILOMETRES, 1987 – 2001



Note: For-hire trucking carriers with annual operating revenues of $0.5 million or more (1988/89), and of $1 million or more (1990 – 2001).

Source: *Statistics Canada, Trucking in Canada, Cat. 53-222 and special tabulations.*

COMMODITIES AND TRUCKING FLOWS

In 2001, domestic and transborder for-hire trucking traffic by Canadian firms generated revenues of $7.9 billion and $6.9 billion, respectively. Five groups of commodities represented close to 75 per cent of transport revenues: manufactured products, food products, forest products, metal and steel products, and automobile/transport products. In terms of volume (tonne-kilometres), the same five commodities also dominated in the same proportion (i.e. 75 per cent of the total).

Ontario dominated trucking traffic in all market segments, with 38 per cent of intraprovincial trucking traffic, 34 per cent of interprovincial trucking traffic and 44 per cent of total transborder traffic hauled by trucks. The heaviest traffic flows involved those between Ontario and the U.S. central region (17.1 billion tonne-kilometres) and Ontario and the U.S. southern region (10.5 billion tonne-kilometres). For additional information on volume and trucking flows, please see tables A7-9 to A7-11 in the Addendum.

CANADA–U.S. BORDER CROSSING ACTIVITY

Heavy truck activity across the Canada–U.S. border rebounded slightly in 2002, growing two per cent from the 2001 level to reach 13.3 million two-way trips. Although a reversal of last year's decline, cross-border heavy truck activity was still off the 2000 peak of 13.6 million trips. This levelling off of activity can be attributed to the economic slowdown in the United States reducing demand for transportation. Car crossings were off nearly six per cent from last year to 64.2 million trips, the lowest level since 1987. For further details on border activity by border crossing, see tables A7-12 and A7-13 in the Addendum.

PRICE, PRODUCTIVITY, FINANCIAL PERFORMANCE

TRUCKING INDUSTRY

From 1996 to 2001, revenues for the trucking industry grew at an average annual rate of 8.6 per cent. From 1996 to 1999, trucking rates stayed basically the same. Following the 2000 fuel price hike, trucking rates increased by about 2.5 per cent each year in 2000 and 2001. Output rose at a robust annual rate of seven per cent between 1996 and 2001. The growth of transborder traffic in 2001 dropped to 4.6 per cent, much less than the double digit growth in previous years and reflective of the effects of the U.S. economic slowdown in 2001. Preliminary figures for 2002 indicate a softening of freight rates as a result of slower demand.

Total factor productivity in the trucking industry declined slightly (0.5 per cent) in 2001. Positive labour productivity gains were offset by increased capitalization, which could, however, be indicative of future productivity gains. Between 1996 and 2001, overall productivity growth reached 1.0 per cent per year, the same average annual increase observed in unit costs.

In 2001, as prices continued to increase more rapidly than unit costs, the average industry operating ratio improved, reaching 94 per cent — 95 per cent is indicative of viability. Large trucking carriers maintained their profitability in the first three quarters of 2002.

URBAN TRANSIT SYSTEMS

In 2001, carriers' revenues (excluding subsidies) for urban transit services rose by 2.6 per cent, despite a drop in ridership. The decrease in ridership followed four consecutive years of growth. Transit prices increased by three per cent in 2001, or 1.8 per cent in real terms, a pace similar to long-term trends. The output of transit systems declined by 0.3 per cent. Between 1996 and 2001, prices increased by 2.3 per cent a year, while output grew by 2.5 per cent a year.

Transit systems remain the most labour- and capital-intensive of all transport industries, with a respective share of 50 and 30 per cent of total costs. The cost structure of the industry remained stable.

In 2001, total factor productivity of transit systems fell by 1.2 per cent. Only fuel efficiency increased. The 2.3 per cent decrease in labour productivity erased much of the gains made in previous years. The decrease of capital productivity, 0.8 per cent per year since 1996, corresponds to increased capital intensity. Transit costs per unit of output rose by 4.8 per cent. Unit cost increases were limited to 0.8 per cent a year, on average, from 1996 to 2001.

The total cost of transit systems was estimated at $4.5 billion in 2001. After decreasing steadily since 1996, to 48 per cent in 2000, cost recovery decreased marginally in 2001. Annual operating subsidies rose to $1.6 billion, $100 million more than the average of the previous years. Capital subsidies were in line with the average levels of the mid-1990s.

Ontario continued to achieve the highest cost recovery, but only because it charged the highest fares (per kilometre) in Canada. Alberta and British Columbia had the lowest cost recovery, the former due to the lowest fares of all regions, the latter due to the highest unit costs in the country. In Quebec, the revenue shortfalls were smaller than the Canadian average, in spite of lower fares. Table 7-8 provides details on the performance of transit systems by region.

TABLE 7-8: SELECTED PROVINCIAL SYSTEMS INDICATORS, 2001

	Quebec	*Ontario*	*Alberta*	*B.C.*	*Canada*
Price levels (Canada = 100)	87.2	119.7	69.7	84.4	100.0
Total unit cost (Canada = 100)	99.8	104.9	87.4	107.2	100.0
Cost recovery (in %)	39.9	52.1	36.4	35.9	45.6
Revenue shortfall per passenger ($)	1.56	1.54	2.03	2.51	1.65

Source: Transport Canada, based on Statistics Canada and CUTA information

For more information on the price, productivity and financial performance of the trucking industry and transit systems, see tables A2-61 to A2-64 in the Addendum.

MARINE TRANSPORTATION

8

The decline in traffic volume handled at Canadian ports came from a drop in domestic marine cargo traffic and Canada's international marine trade traffic.

MAJOR EVENTS IN 2002

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

BUNKERS CONVENTION

On September 27, 2002, Canada signed the new International Convention on Civil Liability for Bunker Oil Pollution Damage that was adopted in March 2001 under the auspices of the International Maritime Organization.

The Convention establishes the liability of the shipowner and compensation regime for spills of oil when carried as fuel in a ship's bunkers. It requires the registered owner of any ship over 1,000 gross registered tons to maintain insurance or other financial security in the event of an oil spill from the ship's bunkers.

2002 PROTOCOL TO THE ATHENS CONVENTION

In October 2002, the International Maritime Organization held a diplomatic conference at which it adopted amendments to the Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, as amended by its 1990 Protocol (Athens Convention). Canada, through the *Marine Liability Act 2001*, has implemented the essence of the Athens Convention. The 2002 Protocol increased the limits of liability for loss of life or personal injury from 175,000 SDR[1] to 400,000 SDR. It also introduced a requirement for shipowners to maintain insurance or another financial instrument to cover their liability. To comply with the 2002 Protocol, some changes would be required to Canadian law.

MARINE LIABILITY ACT

On August 8, 2001, the Government of Canada brought the *Marine Liability Act* (MLA) into force under Chapter 6 of the Statutes of Canada. In September 2002, the *Marine Liability Act* regulations were enacted under Part 6 of the Act.

In 2002, Transport Canada released an independently prepared report which made recommendations on a future regime of compulsory insurance for vessels that carry passengers for commercial and public purposes, as per Section 39, Part 4 of the MLA. As a result, regulations are being developed to define such a regime.

CANADA MARINE ACT Review

As prescribed by legislation, the Government of Canada launched a review of the *Canada Marine Act* (CMA) in 2002 — to be completed during the fifth year following Royal Assent. On May 26, the Government announced the appointment of a four-member panel of industry experts to conduct the review. The Panel's primary role was to carry out consultations with stakeholders; hence in November, it completed an eleven-city, seven-province cross-Canada round of consultations. The Panel is to complete its report in time for the Minister of Transport to table his report in Parliament by June 2003.

The *Canada Marine Act* streamlined marine legislation related to services provided by the federal government in the marine sector, allowed the establishment of Canada Port Authorities and the continued divestiture of certain harbour beds and port facilities, facilitated the commercialization of the St. Lawrence Seaway, and contained provisions on further commercialization of federal ferry services and on pilotage authorities' operations.

---

[1] Special Drawing Rights. Currently, 1 SDR = C$2.00.

NATIONAL MARINE CONFERENCE

The Minister of Transport, with the assistance of the Chamber of Maritime Commerce, hosted a National Marine Conference in May 2002 in Toronto, with the theme "From Vision to Reality — Charting the Course." A wide range of public and private decision-makers, as well as marine industry stakeholders, exchanged views on critical issues facing the Canadian marine industry, including safety and security, labour and skills, competitiveness, and infrastructure and technology.

CANADA SHIPPING ACT, 2002

The *Canada Shipping Act* (CSA) received Royal Assent on November 1, 2001. The CSA 2001 requires a substantive body of regulations to be in place before the Act can be implemented. Consequently, regulatory reform is a strategic priority to put in place a modern regulatory framework promoting safe and secure marine transportation system.

This regulatory reform is proceeding in two phases. Phase one entails the reform of over 100 existing regulations into 30. Transport Canada is responsible for reviewing and consolidating approximately 50 regulations into 15 and Fisheries and Oceans Canada is to look after 15 regulations. Phase two will modernize the remaining regulations that are currently consistent with the new Act.

INFRASTRUCTURE

CANADA'S PORTS AND HARBOURS SYSTEM

Canada's ports and harbours play a crucial role in linking economic activities to markets that otherwise would not be accessible. Canada's major ports are vital gateways in the national transportation system, being linked to the rail and road network.

Canada's ports system began a process of reorganization in December 1995, following the announcement of the National Marine Policy. The federal government has since been moving out of the direct operation of ports and is transferring greater control over the provision of port services to local users. The National Marine Policy, which has been implemented through the *Canada Marine Act*, calls for three categories of ports: (1) Canada Port Authorities (CPAs), (2) regional/local ports and (3) remote ports.

The majority of ports under the control and administration of Transport Canada are designated as regional/local. These ports range from operations that support significant local and regional commercial activity to very small facilities with little or no commercial traffic. As part of the reorganization process, many of these ports have been transferred to other federal departments, provincial governments, municipal authorities, community organizations or private interests.

The National Marine Policy's objective of terminating the government's operational and ownership interests in regional/local ports, originally scheduled to end on March 31, 2002, has been extended by Cabinet. Many of the ports serving as the primary transportation portals for isolated communities are designated as remote ports and will remain under the control and administration of Transport Canada, unless local stakeholders express a willingness to assume ownership of such port facilities.

Of the 549 public ports and port facilities originally under Transport Canada's control and administration before the National Marine Policy came into force, 436 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2002, 113 regional/local and remote ports and port facilities remained under Transport Canada control. Of the remaining ports and port facilities, there are 19 sites where facilities have been transferred yet cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2002.

As of December 31, 2002, 204 public ports and public port facilities have been transferred: 64 sites were transferred to other federal departments, 40 to provincial governments, and 100 to local interests. In addition, 21 sites have either been demolished or have had Transport Canada's interest terminated (through lease or licence terminations).

On the whole, 265 public ports have been deproclaimed, 28 of which were adjacent to port facilities already transferred. Archival research identified 26 harbours in addition to the original 549 port sites identified in the National Marine Policy.

While no remote ports were divested in 2002, 27 remote ports have been divested since 1996. As a result, Transport Canada continues to administer 34 remote ports nation-wide (10 in Quebec, three in Ontario, one in Manitoba and 20 in British Columbia).

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2002

	Federal	*Provincial*	*Municipal*	*Private*	*Total*
Federal Agency Ports					
Canada Port Authorities	19	N/A	N/A	N/A	**19**
Harbour Commissions	1	N/A	N/A	N/A	**1**
Ports Operated by Transport Canada					
Regional/Local	79	N/A	N/A	N/A	**79**
Remote	34	N/A	N/A	N/A	**34**
Ports Transferred[1]					
From Transport Canada	64	40	56	44	**204**
Status of other former Transport Canada Ports					
Demolished	3	N/A	N/A	N/A	**3**
Interests terminated	18	N/A	N/A	N/A	**18**
Deproclaimed	211	N/A	N/A	N/A	**211**
Other Ports in Operations		4	2	33	**39**

[1] Includes 22 sites where facilities have been transferred, but harbour bed has not yet been deproclaimed and 64 sites that were transferred to the Department of Fisheries and Oceans.

Note: Additional detailed information on ports is presented in tables A8-1 and A8-2 in the Addendum, including a summary of the provincial distribution of the ports administered by Transport Canada from 1995 to 2002, a summary of the divestiture status of regional/local and remote ports on a regional basis.

N/A = Not available

Source: Transport Canada

At the end of 2002, there were 164 "other" ports in Canada, including 82 private, 41 provincial and 41 municipal ports. These include sites such as Port Cartier, Quebec, and Nanticoke, Ontario, used to ship large volumes of cargo; and Quyon, Quebec, used for an interprovincial ferry service on the Ottawa River.

The National Ports System, created under the *Canada Marine Act*, is made up of 19 independently managed Canada Port Authorities, which are financially self-sufficient ports critical to domestic and international trade. The 19 CPAs are Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax. They include former Ports Canada local port corporations, former Canada Ports Corporation's major divisional ports, and former harbour commissions. Once a number of land issues have been resolved, the Port of Oshawa is expected to complete the letters patent process and receive CPA status.

The operational role of the federal government in Canada's National Ports System is to enforce regulations for public port and public port facility use, monitor port operations, and collect user fees. Port services, such as cargo handling, are supplied by the private sector.

FINANCIAL PERFORMANCE

Because audited financial statements of Canada Port Authorities for 2002 were not available for this report, results for 2001 were used. It should also be noted that some 2000 figures have been restated to reflect changes in accounting policies as was reported in the 2001 audited financial statements. For detailed financial information, see Addendum tables A8-3 to A8-5.

Total operating revenues of CPAs jumped from $257 million in 2000 to more than $270 million in 2001, while expenditures rose by $7.3 million, which is partly attributable to Hamilton gaining CPA status in 2001. In comparing the same CPAs in 2000 and 2001, revenues increased from approximately $250 million to $257 million, a three per cent increase. Vancouver and Montreal accounted for approximately 57 per cent of total revenues generated. Eight of the 19 CPAs reported an increase in revenues ranging from $0.04 million to $5.7 million, while 10 reported decreases in expenditures ranging from $0.1 million to $1.9 million.

In terms of revenues, Vancouver and Belledune reported the highest increases, at $5.7 million (6.1 per cent) and $3.3 million (56 per cent), respectively. Belledune's was the largest percentage increase. In terms of expenditures, nine ports reported increases ranging from $0.16 million to $4.62 million, for a combined increase of $13.5 million. The net effect at all CPAs was a total increase in expenditures in 2001 of $7.3 million, from $216 million in 2000 to $ 223 million in 2001.

The overall operating ratio for the CPAs was approximately 83 per cent in 2001, with the individual ratios ranging from 40 to 145 per cent. The return on assets was four per cent in 2001. Saguenay had the highest return on assets (29.8 per cent), followed by Trois-Rivières (17.7 per cent) and North Fraser (16.7 per cent).

For CPA ports, net income increased by $23.1 million in 2001. In contrast, 10 of the 19 ports reported increases ranging from $0.07 million to $15.27 million, for a combined increase of $28 million. The 9 ports that reported a decrease in net income had a combined loss of $5 million, with ranges from $0.04 million to $1.93 million. Prince Rupert's increase in net income from minus $14.7 million in 2000 to plus $0.6 million in 2001 can be attributed to a $15.2 million write-down in the 2000 fiscal year on certain capital assets whose net recoverable value was less than the recorded carrying value.

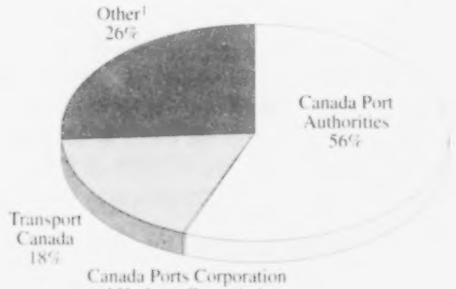
Tonnage for the CPA ports decreased from 226 million tonnes in 2000 to 219.9 million tonnes in 2001. Four CPAs accounted for 62 per cent of total cargo, by volume: Vancouver (33 per cent), Sept-Îles (10 per cent), Saint John (11 per cent) and Montreal (9 per cent). The revenue per tonne increased from $1.17 in 2000 to $1.23, while expenses per tonne increased from $0.96 to $1.02.

At ports still under Transport Canada's control, gross revenues in fiscal year 2001/02 were $13.8 million and expenses were $23.6 million. This left an operating revenue shortfall of $9.8 million and an operating ratio of 171 per cent. Capital expenditures for the year were $6.8 million, and $23.1 million was expended in grants and contributions for costs related to transfers associated with port divestitures. Addendum Table A8-6 provides details.

PORT TRAFFIC

Based on preliminary data provided by Statistics Canada (available only up to 2001), Canada's ports handled 393 million tonnes of cargo in 2001, a decrease of approximately 2.4 per cent from 2000.

FIGURE 8-1: TRAFFIC SHARES BY PORT GROUPS, 2001



[1] Includes the Department of Fisheries and Oceans Canada, provincial and municipal governments and private facilities.

Source: Transport Canada

Figure 8-1 shows traffic shares by port groups in 2001, based on port classification as of December 31, 2001.

The following data show the actual traffic (cargo handled) at some Canada Port Authorities in 2001: Halifax, 13.9 million tonnes; Montreal, 18.9 million tonnes; Prince Rupert, 4.7 million tonnes; Quebec, 15.3 million tonnes; Saguenay, 0.411 million tonnes; Saint John, 24.5 million tonnes; Sept-Îles, 20.9 million tonnes; Thunder Bay, 9.0 million tones; Toronto, 1.8 million tonnes; Vancouver, 71.7 million tonnes; and Fraser River, 11.4 million tonnes.

In 2001, CPAs handled the largest amount of port traffic, with a 56 per cent share of the total. The ports still classified as divisional ports of the Canada Ports Corporation or as Harbour Commissions as of December 31, 2001, transported less than one per cent of the total traffic, while Transport Canada facilities moved 18 per cent of the total cargo. The remaining 26 per cent was handled by other facilities, including those managed privately and those managed by or on behalf of the Department of Fisheries and Oceans and provincial and municipal governments.

At those declared public ports where Transport Canada has no facilities and cargo is transported across private wharves, cargo shipments totalled 31 million tonnes, or 43 per cent of the total traffic handled by Transport Canada ports. Approximately 100 million tonnes of cargo crossed the "other" ports. In this category, Nanticoke, Ontario, with approximately 15.5 million tonnes, handled the most cargo, followed by Port Cartier, Quebec, which carried 14.8 million tonnes. The remaining 153 ports that reported cargo tonnage to Statistics Canada carried the balance of cargo. (See Addendum Table A8-7.)

SMALL CRAFT HARBOURS

The Department of Fisheries and Oceans Canada (DFO) continues to divest recreational harbours and derelict/low-activity fishing harbours. At the end of the disposal exercise, all recreational harbours will have been transferred, and the number of fishing harbours under DFO responsibility could be as low as 750.

Fishing harbours

Since the late 1980s, a DFO program has supported the creation of local harbour authorities to manage the commercial fishing harbours in their communities. Harbour authorities are local, non-profit organizations made up of fishermen and other harbour users that lease the harbour from DFO. The harbour authorities provide services, maintenance and harbour management. As of January 3, 2003, harbour authorities managed 654 sites across Canada, more than 85 per cent of the DFO program target. Fishing harbours not generating enough community interest to form a harbour authority will be divested or, if necessary, demolished. Such harbours are usually low- or no-activity and have a negligible impact on the commercial fishing industry or the community at large. To date, 261 have been divested and 74 are in the final stage of divestiture.

Table 8-2 shows the number of fishing harbours remaining in the DFO portfolio as of January 3, 2003, by management type and region.

TABLE 8-2: DFO FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF JANUARY 3, 2003

	Harbour Authorities	*Small Craft Harbours*	*Total by Region*
British Columbia[1] and the Yukon[2]	73	77	150
Central and Arctic[2]	27	40	67
Quebec	54	34	88
Maritimes and Gulf	284	63	347
Newfoundland and Labrador	216	163	379
Total	**654**	**377**	**1,031**

[1] Totals include 47 mooring buoy sites in British Columbia.

[2] There are no Harbour Authorities in Saskatchewan, the Northwest Territories, Nunavut or the Yukon.

Source: Department of Fisheries and Oceans

Recreational Harbours

The DFO program intends to divest all recreational harbours in its inventory. Since 1994/95, it has either transferred or is in the final stage of divesting 633 recreational harbours — 75 per cent of its target. Municipalities, local non-profit organizations, First Nations or other federal departments are the main recipients of these harbours. If no public body is interested in acquiring the facilities, the facilities are offered at market value. As a last resort, if there is neither public nor private interest in them, they are demolished. The recreational harbour divestiture program is expected to continue for several more years.

Tables 8-3 to 8-8 summarize, by region, the status of the DFO recreational harbour divestiture program (Table 8-3), recipients of harbours divested (Table 8-4) and type of management of the remaining harbour sites in the small craft harbour inventory (Table 8-5).

TABLE 8-4: RECIPIENTS OF DIVESTED DFO RECREATIONAL HARBOURS, AS OF JANUARY 3, 2003

	Province[1]	*Municipality*	*Private Sector*	*Other*[2]	*Total by Region*[3]
British Columbia and the Yukon	54	0	0	0	54
Central and Arctic	25	205	21	32	283
Quebec	3	185	3	25	216
Maritimes and Gulf	6	19	4	50	79
Newfoundland and Labrador	0	1	0	0	1
Total	**88**	**410**	**28**	**107**	**633**

[1] Just over half these properties were subject to provincial reversionary interests and were therefore returned by DFO to the province.

[2] "Other" refers to sites that have been transferred to local non-profit organizations, First Nations or other federal departments, as appropriate.

[3] Number of harbours transferred or in the final stage of transfer as of January 3, 2003.

Source: Department of Fisheries and Oceans

TABLE 8-5: DFO RECREATIONAL HARBOURS BY MANAGEMENT TYPE, AS OF JANUARY 3, 2003

	Managed Under Lease	*Small Craft Harbours*	*Other*[1]	*Total by Region*[2]
British Columbia and the Yukon	1	0	9	10
Central and Arctic	110	42	12	164
Quebec	3	29	4	36
Maritimes and Gulf	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	**114**	**73**	**25**	**212**

[1] "Other" refers to a variety of management and non-management situations. Some construction works, such as shoreline reinforcement or breakwaters, are largely stable and do not require ongoing management. Some facilities are part of a larger development (i.e. a marina) and are managed as part of that development. In other cases, facilities no longer exist at the site and there is nothing to manage.

[2] Remaining recreational harbours in small craft harbours inventory as of January 3, 2003.

Source: Department of Fisheries and Oceans

MARINE PILOTAGE

In Canada, four regional pilotage authorities offer safe and efficient pilotage services: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). They direct and control the navigation and/or ship handling of a vessel through coastal and inland waterways. Each pilotage authority responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

TABLE 8-3: DFO RECREATIONAL HARBOURS DIVESTED BY REGION, AS OF JANUARY 3, 2003

	Fully Divested 1995/2002	*Fully Divested 2002/03*	*Final Stage of Divestiture*	*Total Divested*	*Remainder to be divested*	*Regional Total*
British Columbia and the Yukon	48	3	3	54	10	64
Central and Arctic	256	8	19	283	164	447
Quebec	179	9	28	216	36	252
Maritimes and Gulf	76	1	2	79	1	80
Newfoundland and Labrador	0	0	1	1	1	2
Total	**559**	**21**	**53**	**633**	**212**	**845**

Source: Department of Fisheries and Oceans

As Table 8-6 shows, three of the four pilotage authorities managed to generate enough revenues to cover their expenses in 2002. The results for 2002 represent a return toward a positive net income over the recent downward trend of 2000 and 2001.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2002

(Millions of dollars)

Pilotage Authority	*Revenues*	*Expenditures*	*Net Income (Loss)*
Atlantic Pilotage Authority (APA)	14.241	13.989	252
Laurentian Pilotage Authority (LPA)	46.734	46.322	412
Great Lakes Pilotage Authority (GLPA)	13.289	14.850	(1.561)
Pacific Pilotage Authority (PPA)	40.590	39.968	622
Total Pilotage Authorities	**114,854**	**115,129**	**(275)**

Source: Pilotage Authorities' Annual Reports (2002 preliminary)

The average number of assignments per pilot is commonly used to measure the efficiency of pilotage services. Based on this measure, efficiency increased between 1996 and 1998 but declined afterward. Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2002. (For information on other years, see Table A8-8 in the Addendum.). The variations among the authorities and from one year to another are related to traffic levels. Assignments in different regions and in different areas of the same region (e.g. the Atlantic region) require various times to complete and may be vastly different from one another. Overall, there were slightly more total assignments in 2002 than in 2001.

TABLE 8-7 TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2002

Pilotage Authority	*Indicators*	*2002*
Atlantic (APA)	Total Assignments	11,804
	Assignments Per Pilot	231
Laurentian (LPA)	Total Assignments	19,149
	Assignments Per Pilot	111
Great Lakes (GLPA)	Total Assignments	7,510
	Assignments Per Pilot	119
Pacific (PPA)	Total Assignments	12,655
	Assignments Per Pilot	116
Total All Authorities	**Total Assignments**	**51,118**
	Assignments Per Pilot	**129**

Source: Pilotage Authorities' 2002 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG) is an integral part of the Department of Fisheries and Oceans. In 2002, the CCG celebrated its 40th anniversary as a national institution. The CCG ensures safe and environmentally responsible use of Canada's waters; facilitates the use of Canadian waters for shipping, recreation and fishing; and provides marine expertise in support of Canada's domestic and international interests.

The CCG's clients include commercial shipping interests; recreational boaters; the fishing industry; ferry services; tug and barge resupply operations in the North; cruise lines; private-sector shippers; provincial, municipal and territorial governments; and federal government departments. The CCG plays a key role in maintaining maritime safety, protecting the marine and freshwater environment, and facilitating maritime commerce and ocean development. The CCG also plays a supportive role in managing and protecting fisheries resources and in understanding oceans and aquatic resources.

The CCG's Marine Navigation Services provides, operates and maintains a system of navigation aids; ensures safe shipping channels; protects the public right to navigation; and protects the environment.

The Marine Communication and Traffic Services provides distress and safety communications and coordination; ensures vessel screening to prevent entry of unsafe vessels into Canadian waters; regulates vessel traffic movements; and manages an integrated system of marine information and public correspondence services. It also supports economic activities by optimizing traffic movements and port efficiency, and facilitating industry ship–shore communications.

The Icebreaking Operations provides icebreaking escorts, channel maintenance, flood control, harbour breakouts, and ice-routing and information services for marine traffic navigating through or around ice-covered waters. The icebreaking program has moved to a more client-focused, demand-driven service. As a result, commercial users now pay a percentage of the allocated costs in the form of an icebreaking service fee.

The Rescue, Safety and Environmental Response activities include maritime search and rescue; environmental response; and operation of the office of boating safety by regulating recreational boaters, recreational boats and recreational boating activities.

Within the CCG, the sea and air support activities to all CCG functions, including to other government departments, is done under the Fleet Management Business Line. In 2002, a fleet management renewal initiative was created to respond to issues raised by the Auditor General. Fleet recapitalization is another initiative launched to review fleet requirements to maintain current base fleet capacity.

In recent years, the Coast Guard has implemented three fees for commercial users of specific programs: the marine navigation service fee, in June 1996; a transit-based icebreaking services fee, in 1998; and a maintenance dredging services tonnage fee, in September 1997. Table 8-8 shows the Coast Guard's financial results for fiscal year 2002/03.

For more information on the CCG functions, visit www.ccg-gcc.gc.ca.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND BUDGETED EXPENDITURES, 2002/03

(Millions of dollars)

	Revenues	*Gross expenditures*	*Net Expenditures*
CCG Total	43.4	503.0	459.6
MNS	29.4	109.7	80.3
MCTS	0.1	69.2	69.1
ICE	13.8	55.7	41.9
RSER	0.1	126.1	126.0
Fleet Mgmt	0.0	142.3	142.3

Notes: MNS: Marine Navigation Services, MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; RSER: Rescue, Safety and Environmental Response; CCG: Canadian Coast Guard.

Source: Department of Fisheries and Oceans

ST. LAWRENCE SEAWAY

The St. Lawrence Seaway is a unique inland waterway that extends into the industrial heartland of North America and serves 15 major international ports and some 50 regional ports on both sides of the Canada–U.S. border.

The Seaway is divided into two main sections: the Montreal–Lake Ontario (MLO) section and the Welland Canal section. The MLO section runs from Montreal to Lake Ontario and contains seven locks over 300 kilometres, five in Canada and two in the United States. The Welland Canal section runs from Lake Ontario to Lake Erie and contains eight locks over 42 kilometres.

For the Canadian portion of the St. Lawrence Seaway, 2002 was the fourth full year of management by the St. Lawrence Seaway Management Corporation (SLSMC), a not-for-profit corporation established by Seaway users and other interested parties. Under the SLSMC's management contract with the federal government, which expires on March 31, 2018, the Corporation manages, operates and maintains the Seaway in accordance with a Management, Operation and Maintenance Agreement. The SLSMC is also required to submit five-year business plans to the Minister of Transport that include anticipated revenues and operating costs and an "Asset Renewal Plan." The Corporation is authorized to charge tolls and other revenues to finance the operation and maintenance of the Seaway, and to recover additional funds from the Government of Canada to eliminate operating deficits, when required.

During the 2002 season, estimated combined traffic on the two sections of the Seaway was approximately 41.1 million tonnes, 1.4 per cent lower than in 2001. Iron ore took first place this year among commodity shipments, with 9.6 million metric tonnes, up 11.4 per cent. Grain continued its downward trend with a 12.8 per cent drop in volume carried. Other commodities associated with the steel industry and other bulk cargo declined by approximately five per cent. Tables 8-9 and 8-10 show cargo movements and traffic by commodities, respectively, for 2001 and 2002. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-9: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2001 AND 2002

(Thousands of tonnes)

Year	*Montreal–Lake Ontario Section*	*Welland Canal Section*
2001	30,278	32,485
2002 (estimated)	29,845	31,785

Source: St. Lawrence Seaway Management Corporation

TABLE 8-10: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2001 AND 2002

(Thousands of tonnes)

Year	*Grain*	*Iron Ore*	*General Cargo*	*Coal*	*Other*	*Total*
2001	11,792	8,657	3,005	4,804	13,447	41,705
2002[1]	10,292	9,641	4,215	4,159	12,810	41,117

Note: Combined traffic in the two sections of the Seaway.

[1] 2002 figures are estimated.

Source: St. Lawrence Seaway Management Corporation

RATES AND TARIFFS

As part of the negotiated agreement with Seaway users, the SLSMC implemented a two per cent toll increase for the Canadian section of the Seaway in 2002. However, the Corporation was able to apply a 1.5 per cent toll rebate for the 2002 season because its expenditures were lower than business plan targets for the fourth year in a row and because it was able to increase the balance of its notional reserve account to $12.1 million as of March 31, 2002.

Financial Profile

In fiscal year 2001/02, Seaway revenues from tolls and other sources were $64.5 million, compared with $76.0 million in 2000/01. Toll revenues fell to $62.0 million, a substantial drop from the $73.4 million in 2000/01. This reflected the economic slowdown in the United States and Canada.

Operating expenses were $53.2 million, a slight decrease from the previous year. Salaries, wages and benefits accounted for 84.9 per cent of this total. The asset renewal program totalled $24.5 million in 2001/02, down from $25.1 million in the previous year.

Table 8-11 compares the financial performance of the St. Lawrence Seaway from 1999/2000 to 2001/02.

TABLE 8-11: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 1999/2000 TO 2001/02

(Thousands of dollars)

Year	*Revenues*	*Expenditures*	*Excess of revenue over expenses*	*Net Excess of revenue over expenses*[1]
1999/2000	76,026	75,156	870	630
2000/01	76,031	80,045	(4,014)	(1,821)
2001/02 (April 2001 to March 2002)	64,495	79,120	(14,625)	(2,118)

1 Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Authority/St. Lawrence Seaway Management Corporation

INDUSTRY STRUCTURE

Canada's marine industry includes a fleet of Canadian-flag operators providing domestic and transborder shipping services, while international trade is served largely by foreign-flag operators calling at Canada's major ports.

Domestic Services

The Canadian merchant fleet carries the majority of domestic shipments of bulk materials on the Great Lakes and along Canada's coastline. The fleet is defined here as self-propelled vessels of 1,000 gross tons[2] and over flying the Canadian flag. At the end of 2002, it stood at 183 vessels and more than 2.3 million gross tons.

Dry bulk carriers remain the backbone of the Canadian merchant fleet, accounting for 50 per cent of tonnage and 36 per cent of vessels in 2002. The dry bulk fleet was made up of 65 vessels in 2002, composed of straight-deck bulkers dedicated mainly to grain transportation and self-unloading vessels carrying various bulk commodities. By comparison, the number of tankers decreased from 41 in 1982 to 24 in 2002, while their capacity share increased from 11 to 24 per cent of total gross tonnage, due to the addition of larger units.

An extensive fleet of tugs and barges was also in operation at the domestic and international level. In 2002, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 325 tugs (117,000 gross tons) and 1,236 barges and scows (almost 1.2 million gross tons).

Table 8-12 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1982, 1992 and 2002.

TABLE 8-12: CANADIAN-REGISTERED FLEET BY TYPE, 1982, 1992 AND 2002

	Gross Tons (Thousands of tons)			*Number of Vessels*		
Type of Carriers	*1982*	*1992*	*2002*	*1982*	*1992*	*2002*
Dry bulk	1,967	1,380	1,165	133	79	65
Tankers	285	244	559	41	33	24
General cargo	81	79	206	21	14	27
Ferries	258	295	365	56	56	61
Other	73	35	35	13	8	6
Total	**2,665**	**2,033**	**2,330**	**263**	**190**	**183**

Note: Self-propelled vessels of 1,000 gross tons and over, including government owned ferries.

Source: Canadian Transportation Agency and Transport Canada

Eastern Canada

A fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels provides freight services in eastern Canada, including the Arctic. Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines are the three largest operators in the Great Lakes–St. Lawrence region.

In 2002, Canada Steamship Lines acquired the three remaining operational bulk vessels of N.M. Paterson & Sons Limited, as Paterson withdrew from shipping operations on the Great Lakes. This continued the trend toward consolidation in the domestic Great Lakes fleet.

---

[2] Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as deadweight in tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

WESTERN CANADA

On the West Coast, domestic marine cargo services are provided by a large tug and barge fleet. Most of the operators concentrate on the domestic trades but some also trade internationally between Canadian and U.S. ports.

The Washington Marine Group, owned by Montana businessman Dennis Washington, controls several of the largest tug and barge operations, including Seaspan International Ltd., the largest Canadian tug and barge operator on the West Coast; Cates Tugs; Norsk; and Kingcome Navigation Company, formerly owned by MacMillan Bloedel. Rivtow Marine Ltd. is the second-ranked tugboat company in British Columbia.

NORTHERN CANADA

In the Western Arctic, Northern Transportation Company Limited (NTCL) is the principal marine operator in Northern Canada for the area encompassing the Mackenzie River Watershed and the Arctic coast and islands. Its operations cover the Mackenzie River, the Western Arctic, Alaska and Great Slave Lake. NTCL handles bulk petroleum products and dry cargo for communities, defence installations and gas exploration sites across the North. It also provides tug and barge operations from the Port of Churchill to service communities in what is now the Kivalliq region of Nunavut.

In the Eastern Arctic, the Government of Nunavut now has responsibility for the Arctic Sealift. The N3 Alliance was awarded a two-year contract for 2001/02 covering all aspects of the Sealift. The N3 Alliance is a joint venture between NTCL, Nortran Inc. and Nunavut Sealink and Supply Inc. (NSSI).

In addition to the Arctic Sealift to the Baffin Region of Nunavut and the NTCL service to the Kivalliq Region out of Churchill, resupply services to the Nunavik Region are managed by the Quebec Ministry of Transportation, and the James and Hudson Bay Cree are served out of Mooseney (cargo originates in the Toronto region).

Mines such as Polaris and Nanisivik also have vessels calling with supplies inbound and carrying zinc and lead concentrates to world markets outbound. Fednav, the owner of the *MV Arctic*, is active in this market.

INTERNATIONAL SERVICES

International marine freight transport can be broken down into bulk and liner shipping.

Bulk shipping pertains to marine freight carried as single cargoes and in large volume. Canadian cargoes carried as bulk include coal, iron ore and potash.

The bulk freight industry operates in a competitive market composed of time charters (term contracts) and "spot" or "tramp" carriers that operate on the basis of short-term contracts for a specified number of voyages or days or for a given quantity of cargo. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flagged ships.

Liner shipping pertains to the carriage of high-value containerized cargo moved under published rates and on specific fixed itinerary trade routes.

The international liner trade is dominated by large fleets of specialized container vessels operating on major trade routes around the world. The majority of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews. Shipping lines calling at Canadian ports may provide conference or non-conference liner services. Ocean carriers (i.e. individual lines) providing liner services on a common trade route often elect to form a shipping conference and to adhere to rates and/or conditions of service under a conference agreement. Such practices are exempted from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA).

Independent shipping lines, referred to as non-conference carriers, offer rates and services that are comparable with those of conference operators and contribute to a competitive international shipping industry. A shipping line may choose to be a conference member on certain routes and an independent operator on others.

SERVICES AVAILABLE TO CANADIAN SHIPPERS

In 2002, the Canadian Transportation Agency had 14 shipping conference agreements on file, 12 with filed tariffs and 2 non-tariff filing arrangements.

Five of the conferences operate between Eastern Canada, Northern Europe and the Mediterranean. Atlantic Container Line, Canada Maritime Ltd., Hapag-Lloyd Container Line, P&O Nedlloyd, MITSUI O.S.K. Lines and Orient Overseas Container Lines are some of the major lines serving Canada as conference members.

Table 8-13 lists the 12 tariff-filing Conference Agreements.

TABLE 8-13: SHIPPING CONFERENCES SERVING CANADA IN 2002

1. Canadian Continental Eastbound Freight Conference (E)
2. Canada–United Kingdom Freight Conference (E)
3. Continental Canadian Westbound Freight Conference (E)
4. Australia–Canada Container Line Association (E & W)
5. Mediterranean Canadian Freight Conference (E)
6. Canada/Australia–New Zealand Association Carriers (CANZAC) (E & W)
7. New Zealand–Canada Container Lines Association (E & W)
8. Canada Transpacific Stabilization Agreement (E & W)
9. Mediterranean North Pacific Coast Freight Conference (Canada) (W)
10. Canada/Australia–New Zealand Discussion Agreement (E & W)
11. Canada North Atlantic Westbound Freight Conference (E)
12. Canada Westbound Transpacific Stabilization Agreement (E)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Shippers benefit not only from competition between conference and non-conference carriers but also within conferences through the independent action provision contained in the *Shipping Conferences Exemption Act* (SCEA). The provision permits individual conference lines to offer a rate, or services, different from those found in the conference tariff. Under the 2001 SCEA, an independent action by a conference line can take effect after 5 days of notice, as opposed to 15 in the old Act.

Also under the 2001 SCEA, an individual conference line is allowed to sign service contracts with shippers without disclosing the contract terms and conditions to the conference. A conference and a shipper may also negotiate and sign conference-wide service contracts. These contracts are confidential, but to comply with SCEA they must be filed with the Canadian Transportation Agency.

In 2002, the Canadian Transportation Agency accepted filings for 51 service contracts,[3] 47 fewer than in 2001. The contracts applied to both inbound and outbound traffic and to origins and destinations on both the east and west coasts of Canada. The average duration of the contracts was one year.

PASSENGER TRANSPORTATION

FERRY SERVICES

The Canadian Ferry Operators Association (CFOA) counts most major ferry operators in Canada as members. When it comes to ferry services in Canada, wide differences in services, ownership and vessel type used are observed. Ownership ranges from small, private operators to provincial governments and federal Crown corporations. Ferry companies, municipalities, private companies and federal and provincial governments also own, lease and operate terminals and docking facilities. Vessel types vary from small cable ferries to large cruise-type vessels and fast ferries, and operations range from seasonal to year-round service.

For details on the major ferry services, see Addendum Table A8-11. Most major ferry services have their own Web sites, routes and rates.

Traffic figures for 2002 for all members of the CFOA are not yet available. The traffic figures for 2001, however, are a good indication of the relative size of CFOA operations. Total passenger traffic is estimated at over 40 million passengers and 17 million vehicles. This represents approximately 15 per cent of total worldwide ferry traffic.

The British Columbia Ferry Corporation is by far the largest operator in Canada. In 2001, it carried approximately 21.5 million passengers and 7.9 million vehicles. Inland ferry services are also operated by British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation; they carried another 6.6 million passengers and 3 million vehicles. In Quebec, La Société des traversiers du Québec carried 5.4 million passengers and 2.5 million vehicles.

In 2002, the federal Crown corporation Marine Atlantic Inc. increased its traffic to a record 512,000 passengers and 245,000 vehicles between Newfoundland and Labrador and Nova Scotia. Private ferry operators subsidized by the federal government also increased their overall traffic and in 2002 carried approximately 950,000 passengers and 340,000 vehicles. The remaining CFOA members, including provincial operations in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately 4 million passengers and 1.8 million vehicle crossings.

Federally supported ferry services in Atlantic Canada are now limited to those provided by Marine Atlantic Inc. and two private-sector operators, Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée. In addition, the federal government provides an annual grant to the Province of British Columbia, which is directed to BC Ferries.

---

[3] Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

CRUISE SHIP INDUSTRY

The large cruise vessels calling at Canada's ports are owned by foreign-based companies and fly foreign flags. These vessels offer two basic types of extended cruises, the luxury cruise and the pocket cruise, which are distinguished by vessel capacity of more or less than 150 passengers.

Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world, after the Caribbean and the Mediterranean. Vancouver and (to an increasing extent) Seattle serve as "home ports" (where passengers embark and/or disembark) for these voyages. At Vancouver's Canada Place, a third berth has been opened at its cruise ship terminal. Prince Rupert, already active in the pocket cruise ship market, has announced the construction of a $9 million cruise ship berth to attract calls by the luxury lines in the Alaska trade.

In Eastern Canada, luxury cruise vessels sail out of New York and up the eastern seaboard, calling in Halifax, Charlottetown and other East Coast ports before entering the St. Lawrence River for calls at Quebec City and Montreal. There are also shorter cruises out of New York or Boston that travel northward to Halifax, Saint John and other Atlantic ports. Quebec City opened a new cruise terminal in 2002 and saw a dramatic increase in passenger traffic (up 36 per cent over 2001).

Table 8-14 shows international cruise ship traffic at major Canadian ports in 2001 and 2002. For a longer time series (1992 to 2002), see Addendum Table A8-12. Other Canadian ports, such as Charlottetown and Victoria, also benefit from calls by major cruise lines.

TABLE 8-14: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2001 AND 2002

(Passengers)

Year	*Vancouver*	*Montreal*	*Quebec City*	*Halifax*	*Saint John*
2001	1,060,383	23,900	48,776	160,241	88,190
2002 (prel.)	1,125,252	38,000	66,365	157,036	71,168

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

Marine freight traffic totalled 340 million tonnes[4] in 2001, a 2.4 per cent decrease from 2000. Domestic flows[5] accounted for about one sixth of this (53.2 million tonnes), 2.3 per cent less than in 2000 (54.5 million tonnes). Of these domestic flows, Canadian-flag vessels carried an overwhelming 95.4 per cent (50.8 million tonnes).

In 2001, Canada–U.S. traffic totalled 108.0 million tonnes, a 0.6 per cent decrease over 2000. Of this, Canadian-flag vessels accounted for just over half, at 50.3 per cent, for a total of 54.3 million tonnes. "Other" international (deep-sea or overseas) traffic[6] decreased by 4.0 per cent in 2001 to 179 million tonnes. Canadian-flag vessels carried only 0.1 per cent of this traffic.

Table 8-15 shows Canada's marine traffic statistics, by sector, for the years 2000 and 2001. Addendum Table A8-13 covers the same information from 1986 to 2001.

Table 8-16 shows the share of Canadian waterborne trade carried by Canadian-flag vessels in 2001.

TABLE 8-15: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2000 AND 2001

(Millions of Tonnes)

	Flows			*Total Flows*	*Total Handled*
	Domestic	*Transborder*	*Overseas*		
2000	54.5	108.6	185.2	348.3	402.8
2001	53.2	108.0	178.6	339.8	393.0

Source: Statistics Canada, Shipping in Canada, Cat. 54-205

TABLE 8-16: CANADIAN-FLAG SHARE OF CANADIAN WATERBORNE TRADE, 2001

(Millions of tonnes)

Canadian Waterborne Trade	*Canadian Flag*	*Per cent*	*U.S. Flag*	*Per cent*	*Foreign Flag*	*Per cent*	*Total Traffic*
Domestic	50.8	95.4	0.1	0.1	2.4	4.5	53.2
Canada/U.S.	54.3	50.2	10.6	9.8	43.2	40.0	108.0
Deep-Sea	0.2	0.1	0.1	0.0	178.4	99.9	178.6
Total	**105.2**	**31.0**	**10.7**	**3.2**	**223.9**	**65.9**	**339.8**

Source: Statistics Canada and Transport Canada

DOMESTIC MARINE FREIGHT TRAFFIC

COASTING TRADE ACTIVITY FOR 2002

The transportation of passengers and cargos, as well as marine-related activities in Canadian waters, is normally restricted to Canadian-registered duty-paid ships. This also applies to the exploration and exploitation of non-living natural resources in Canada's continental shelf. However, when no Canadian ship is available or capable of providing a particular service, foreign-registered ships can apply to Canada Customs and Revenue Agency (CCRA) for licences to enter Canada's coasting trade.

---

[4] Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

[5] Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, approximately the same volumes get counted twice.

[6] "Other" international traffic includes shipments to and from foreign countries other than the United States.

In 2002, CCRA received 82 applications for a coasting trade licence, down from the 100 in 2001. The Canadian Transportation Agency denied four of these applications and rescinded one as the result of an objection raised by a stakeholder. The United States was the predominant foreign flag, with 19 requests.

Not all approved requests result in the applicant following through in obtaining a licence. The highest area of requests continued to be for vessels for use in offshore oil and gas exploration and production. In 2002, there were 16 tanker requests, eight for seismic vessels and eight for drill ships and rigs. As offshore activity shifts from exploration to production, the requirement for large-capacity shuttle tankers is increasing. The request for a licence may involve the use of several tankers for a number of voyages over a twelve-month period.

Table 8-17 shows the actual tonnage and percentage of total domestic cargo tonnage carried by foreign-registered vessels in 2000 and 2001. Table A8-14 in the Addendum gives this same information over a longer time period.

TABLE 8-17: SHARE OF TONNAGE CARRIED BY FOREIGN-FLAG SHIPS IN THE CANADIAN COASTING TRADE, 2000 AND 2001

Year	*Canadian*	*Per cent*	*Foreign*	*Per cent*	*Total*
2000	53,885,963	98.85	627,067	1.15	54,513,030
2001	50,778,193	95.38	2,458,615[1]	4.62	53,236,808

[1] *Significant increase of "Crude Petroleum Oils" shipments from Grand Bank (Hibernia) and Port Hawkesbury.*

Source: Transport Canada, from data supplied by Statistics Canada

Being both loaded and unloaded at Canadian ports, domestic cargo is handled twice within the Canadian port system. Domestic cargo fell by 2.4 per cent to 106.4 million tonnes in 2001. Decreased shipments of pulpwood, logs and bolts, iron ore, stone, sand and gravel offset a significant increase in shipments of crude petroleum, fuel oil, wheat, and coal.

Table 8-18 shows flows of domestic marine traffic by region in 2001.

TABLE 8-18: MARINE DOMESTIC FLOWS BY CANADIAN REGION, 2001

(Thousands of tonnes)

	---- *Region of Destination (Unloadings)* ----				
Region of Origin (Loadings)	*Atlantic*	*St. Lawrence*	*Great Lakes*	*Pacific*	*All Regions*
Atlantic	8,936	3,093	437	7	12,473
St. Lawrence	764	5,237	6,339	1	12,340
Great Lakes	315	5,010	8,957	0	14,283
Pacific	3	0	0	14,138	14,141
All Regions	**10,018**	**13,340**	**15,733**	**14,146**	**53,237**

Source: Statistics Canada, Shipping in Canada, Cat. 54-205

Most domestic traffic passes through the Great Lakes–St. Lawrence Seaway system. In 2001, the ports serving the Seaway handled 55.7 million tonnes (loadings and unloadings), or 52 per cent of the total domestic tonnage. Pacific region ports handled 28.3 million tonnes, or 26.6 per cent of the total. Pacific ports handled 5.0 million tonnes less domestic cargo in 2001 than in 2000, 99.8 per cent of which originated and terminated within that region. Atlantic region ports handled 22.5 million tonnes of domestic cargo in 2001, or 3.4 per cent less than in 2000.

In 2001, the primary commodities handled in the domestic trade across Canada were:

- pulpwood and chips (13.5 million tonnes, down 11.5 per cent from 2000)
- stone, limestone, sand and gravel (14.1 million tonnes, down 4.6 per cent)
- iron ore and concentrates (12.5 million tonnes, down 4.4 per cent)
- logs and bolts (5.7 million tones, down 30.7 per cent)
- crude petroleum (11.1 million tonnes, up 13.9 per cent);
- fuel oil (8.8 million tonnes, up 7.6 per cent)
- wheat (8.4 million tonnes, up 2.5 per cent)

Together, these commodities represent more than two thirds (71 per cent) of all domestic tonnage handled at Canadian ports in 2001.

INTERNATIONAL MARINE FREIGHT TRAFFIC

Canadian ports handled 286.6 million tonnes of international cargo in 2001, down 2.4 per cent from 2000. Of that total, 60.8 per cent was export-oriented (including in-transit and re-export traffic). Japan, China, South Korea, the United Kingdom and other western European nations accounted for more than 60 per cent of Canada's total international marine traffic (exports and imports) in 2001.

CONFERENCE/NON-CONFERENCE MARKET SHARES

Non-conference traffic has grown consistently in recent years, both in absolute terms and as a percentage of total liner traffic. It did, however, decrease to 17.4 million tonnes in 2001, while conference traffic remained relatively constant compared with 2000. Non-conference operators still moved more than 60 per cent of the total liner traffic. If non-conference U.S. origin/destination transshipped traffic is taken into account, the non-conference share becomes even more dominant.[7]

Table 8-19 compares the conference and non-conference shares of Canadian liner trade between 2000 and 2001. Table A8-15 in the Addendum shows data from 1994.

TABLE 8-19: CONFERENCE/NON-CONFERENCE SHARES OF CANADIAN LINER TRADE, 2000 – 2001

(Millions of tonnes)

	2000	*2001*
Conference		
Exports	3.9	3.7
Imports	6.8	6.6
Total	10.6	10.3
Non-conference		
Exports	12.6	11.6
Imports	7.9	5.8
Total	20.5	17.4

Source: Transport Canada, International Database; Statistics Canada

As in past years, in terms of the type of cargo carried, conference operators tended to concentrate almost exclusively on containerized traffic: 10.1 million of the 10.3 million tonnes of the cargo they carried was in containers. Non-conference traffic is also increasingly characterized by a large percentage of cargo in containers (77 per cent in 2001) but includes general cargo and neobulk traffic as well.

The breakdown of liner traffic by foreign region of origin/destination is also useful to illustrate the relative shares of conference and non-conference operators on different routes. Table 8-20 compares conference and non-conference liner traffic by region for 2001. The decrease in liner traffic in 2001 affected most trading regions but most significantly the Other America and Europe routes.

TABLE 8-20: LINER TRAFFIC BY REGION, 2001

(Millions of tonnes)

	Liner Imports		*Liner Exports*		
Region	*Conference*	*Non-conference*	*Conference*	*Non-conference*	*Total*
Europe	4.3	2.2	3.6	1.2	11.3
Asia	2.3	1.6	–	8.0	11.8
Central America	–	0.4	–	0.7	1.1
South America	–	0.8	–	0.5	1.3
Other America	–	0.2		0.4	0.6
Middle East	–	0.2	–	0.4	0.6
Oceania	–	0.2	–	0.2	0.4
Africa	–	0.2	–	0.1	0.4
Total	**6.6**	**5.8**	**3.6**	**11.5**	**27.5**

Note: – means Nil.
Other America = North America plus Greenland and Saint Pierre and Miquelon.

Source: Transport Canada, International Database; Statistics Canada

CANADA–U.S. FREIGHT TRAFFIC

Canada's marine traffic to and from the United States reached 107.8 million tonnes in 2001, down slightly from 2000. Imports (unloadings to U.S. destinations)[8] grew by 5.0 per cent in 2001, while exports (loadings) decreased by 4.4 per cent.

Table 8-21 shows Canada's maritime trade with the United States in 2000 and 2001. Addendum Table A8-16 shows trade with the United States since 1986.

TABLE 8-21: CANADA'S MARITIME TRADE WITH THE UNITED STATES, 2000 – 2001

(Millions of tonnes)

	Loaded	*Unloaded*	*Total*
2000	64.7	43.8	108.5
2001	61.9	46.0	107.9

Source: Statistics Canada, Cat. 54-205; Transport Canada

In 2001, loadings at Canadian ports destined to the United States totalled 61.9 million tonnes. Seven commodities accounted for 80 per cent of this volume: crude petroleum (11.0 million tonnes), stone, limestone, sand and gravel (9.3 million tonnes), gasoline (7.7 million tonnes), fuel oil (6.5 million tonnes), gypsum (6 million tonnes), iron ore (5 million tonnes) and salt (4.3 million tonnes).

---

[7] It is important to note that the data in the tables are not adjusted for U.S. transshipments moving through Canadian ports. Much of this traffic moves on conference vessels but at non-conference rates. The route most likely affected by these transshipments is the one between Europe and Canada. Montreal estimates that approximately 50 per cent of its liner traffic originates in or is destined for the United States. In addition, Halifax is handling growing amounts of U.S. Midwest traffic. This would, of course, affect the balance between conference/non-conference traffic further in favour of the independent operators.

[8] Including in-transit and transshipment cargo.

From 2000 to 2001, there were some significant changes in the volumes of major commodities exported to the United States. Gasoline exports jumped by 62.9 per cent, while fuel oil and salt exports increased by 20.1 and 24.8 per cent, respectively. In contrast, iron ore exports decreased by 47.8 per cent, while crude petroleum and gypsum exports decreased by 11.6 per cent and 10.6 per cent, respectively.

There were two main flow corridors in 2001: the Canadian Atlantic to the U.S. Atlantic route, and the Canadian Great Lakes to the U.S. Great Lakes route. The Atlantic route carried 33.6 million tonnes, or 54 per cent of total loadings to the United States, while the Great Lakes route carried 14.0 million tonnes, or 23 per cent of total loadings. These two routes accounted for 77 per cent of Canada's commodities traffic volumes shipped to the United States using marine transport services.

In 2001, imports of U.S. marine shipments to Canada increased by 5.0 per cent from 43.8 million tonnes in 2000 to 46.0 million tonnes. Seven commodities accounted for more than 80 per cent of this volume: coal (22 million tonnes), iron ore (4.5 million tonnes), fuel oil (2.6 million tonnes), stone, limestone, sand and gravel (3.0 million tonnes), inorganic chemicals (2.7 million tonnes), other petroleum products (2.2 million tonnes) and soybeans (1.3 million tonnes).

As was the case with exports, there were some significant differences at the commodity level in the volumes of marine imports from the United States between 2000 and 2001. Imports of coal and fuel oil were up 10.1 and 80.2 per cent, respectively, while shipments of iron ore and stone, limestone, sand and gravel dropped by 29.7 and 11.2 per cent, respectively.

More than 75 per cent of the total volume of all marine imports from the United States originated at ports on the Great Lakes. Ports along the U.S. Atlantic and the Gulf of Mexico accounted for 17.8 per cent, and U.S. Pacific ports made up the remaining 6.7 per cent.

Table 8-22 shows traffic flows from Canadian to U.S. ports in 2001, while Table 8-23 shows traffic flows from U.S. to Canadian ports.

TABLE 8-22: CANADA'S MARINE TRAFFIC TO THE UNITED STATES, 2001

(Millions of tonnes)

	U.S. Region of Destination			
Canadian Region of Origin	*U.S. Atlantic*	*U.S. Great Lakes*	*U.S. Pacific*	*Total*
Atlantic	33.6	0.2	0.2	33.9
St. Lawrence	3.6	3.1	0.0	6.8
Great Lakes	0.1	14.0	0.0	14.1
Pacific	0.2	0.0	6.9	7.1
Total	**37.5**	**17.4**	**7.0**	**61.9**

Source: Statistics Canada, Cat. 54-205; Transport Canada

TABLE 8-23: CANADA'S MARINE TRAFFIC FROM THE UNITED STATES, 2001

(Millions of tonnes)

	U.S. Region of Origin			
Canadian Region of Destination	*U.S. Atlantic*	*U.S. Great Lakes*	*U.S. Pacific*	*Total*
Atlantic	3.8	0.4	0.1	4.4
St. Lawrence	3.9	3.0	0.4	7.3
Great Lakes	0.2	31.3	0.0	31.5
Pacific	0.2	0.0	2.6	2.8
Total	**8.2**	**34.8**	**3.2**	**46.1**

Source: Statistics Canada, Cat. 54-205; Transport Canada

OVERSEAS FREIGHT TRAFFIC

Canada's marine trade with overseas countries (excluding the United States) totalled 179 million tonnes in 2001, a four per cent decrease from 2000. More of this volume moved as exports than imports. Approximately 63 per cent of overseas exports were loaded at West Coast ports, while 90 per cent of overseas imports were unloaded at East Coast ports.

Table 8-24 shows Canada's maritime overseas trade in 2000 and 2001. Addendum Table A8-17, shows overseas trade since 1986.

TABLE 8-24: CANADA'S MARITIME OVERSEAS TRADE, 2000 – 2001

(Millions of tonnes)

	Loaded	*Unloaded*	*Total*
2000	123.1	62.1	185.2
2001	112.5	66.3	178.8

Source: Statistics Canada, Cat. 54-205; Transport Canada

In 2001, 112.5 million tonnes of cargo were loaded at Canadian ports to be shipped to non-U.S. countries, 8.6 per cent less than in 2000. The major commodities shipped from Canada included coal (27.6 million tonnes), iron ore (17.6 million tonnes), wheat (15.2 million tonnes), containerized freight (13.0 million tonnes), woodpulp (6.7 million tonnes), sulphur (5.3 million tonnes) and potash (3.9 million tonnes). Slightly more than 10 per cent of this traffic was containerized.

Coal, iron ore, wheat, wood pulp, potash and sulphur shipments showed significant decline in 2001 from 2000. Iron ore shipments decreased 12.9 per cent, coal by 8.7 per cent and wheat by nine per cent. Fuel oil shipments, however, increased by 69 per cent.

In 2001, three fifths of Canada's total marine exports to overseas destinations were loaded at ports in western Canada. The ports along the St. Lawrence Seaway handled most of the loading for ports in eastern Canada. Western ports dominated the tonnage shipped on the Asia and Oceania trade routes with 88 per cent, while the eastern ports handled 73 per cent of the tonnage shipped to Europe.

In terms of imports, Canadian ports unloaded 66.3 million tonnes of marine shipments from overseas origins in 2001, 6.7 per cent more than in 2000. Imports of crude petroleum[9] totalled 32 million tonnes, or 48 per cent of all marine traffic unloaded from offshore origins. Other major commodities unloaded included containerized freight (10.1 million tonnes), coal (3.0 million tonnes), inorganic chemicals (3.1 million tones), alumina and bauxite (5.5 million tonnes), iron and steel (2.1 million tonnes) and fuel oil (1.9 million tonnes). About 15 per cent of this inbound traffic was containerized.

In addition, more than 89 per cent of overseas shipments were unloaded at ports in eastern Canada. Overseas cargo originated mainly from Europe, the Middle East and Africa.

Table 8-25 shows Canada's marine traffic to overseas destinations, while Table 8-26 shows Canada's marine traffic from overseas markets in 2001.

TABLE 8-25: CANADA'S MARINE TRAFFIC TO OVERSEAS, 2001

(Millions of tonnes)

Foreign Region of Destination	*Canadian Region of Origin*		
	Eastern Ports	*Western Ports*	*Total*
Asia and Oceania	6.5	48.0	54.5
Europe	24.7	9.0	33.7
South and Central America	5.7	9.3	15.0
Middle East and Africa	4.7	4.6	9.3
Total	**41.6**	**70.9**	**112.5**

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

TABLE 8-26: CANADA'S MARINE TRAFFIC FROM OVERSEAS, 2001

(Millions of tonnes)

Foreign Region of Destination	*Canadian Region of Destination*		
	Eastern Ports	*Western Ports*	*Total*
Europe	28.6	0.3	28.9
Middle East and Africa	14.8	0.1	14.9
South and Central America	13.1	0.8	13.9
Asia and Oceania	3.0	5.5	8.5
Total	**59.5**	**6.7**	**66.2**

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

MARINE TRADE

According to international trade data, the value of Canadian international marine trade in 2001 was in the order of $98.3 billion (excluding shipments via U.S. ports). This was 4.1 per cent lower than in 2000. Marine exports were valued at $44.6 billion and imports at $53.8 billion. The value of exports decreased by 4.7 per cent, notably with decreased cargoes outbound to Western Europe (United Kingdom, Germany, Belgium and Italy) and Asia (Japan, China, South Korea and Taiwan). The value of imports also decreased by 3.6 per cent.

Table 8-27 shows the value of the marine share of Canada's international trade in 2001.

TABLE 8-27: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2001

(Billions of Canadian dollars)

	Marine	*All Modes*	*Marine (per cent)*
Transborder			
Exports[1]	9.59	350.74	2.7
Imports	3.53	218.30	1.6
Total U.S.	**13.12**	**569.03**	**2.3**
Other countries			
Exports[1]	34.96	51.77	67.5
Imports	50.24	124.67	40.3
Total	**85.20**	**176.44**	**48.3**

[1] Including domestic exports and re-exports

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

Marine traffic with the United States was valued at $13.1 billion in 2001, driven by exports of $9.6 billion. This value, however, represented only 2.3 per cent of total Canada–U.S. trade. The bulk of the traffic was handled by surface transport modes, such as trucking and rail.

---

[9] Including transshipments of North Sea Crude petroleum.

In 2001, the Canadian marine trade with overseas countries (excluding the United States) was valued at $85.2 billion, with exports estimated at $35 billion and imports at $50.2 billion. In terms of value, marine transport accounted for 48 per cent of all overseas trade and was the dominant mode for shipping overseas freight.

The major areas of exports/imports are Asia, Western Europe and the United States. The principal commodities exported to foreign countries (including the United States) were forest products ($8.6 billion), gasoline/aviation fuel ($4.5 billion) and wheat ($3.4 billion). Imports consisted of crude petroleum (10.6 billion), automobile vehicles ($7.6 billion), manufactured/miscellaneous goods ($6.9 billion) and machinery ($4.2 billion). For the major countries and principal commodities exported/imported by value, see Addendum Table A8-18.

AIR TRANSPORTATION

9

The air transport industry continued to be confronted with difficult market conditions in 2002, making demand stimulation quite a challenge.

MAJOR EVENTS IN 2002

AIR TRAVEL COMPLAINTS COMMISSIONER

The Minister of Transport appointed a new Air Travel Complaints Commissioner, Ms Liette Lacroix Kenniff, in September 2002. In January 2003, the Commissioner released her report, for the period of January 2002 to June 2002. The report showed that the public made fewer complaints than in previous periods, 2,205 between July 2001 and June 2002 compared with 2,745 complaints during the previous year. Most complaints between January and June 2002 were about quality-of-service issues (33 per cent), followed by flight schedules (20 per cent), ticketing (13 per cent) and baggage handling (12 per cent). About two thirds (68 per cent) of complainants indicated that they were fully or partially satisfied with the outcome of complaints handled by the Commissioner's office. As part of her report, the Commissioner recommended that air carriers show the true cost of the ticket in their advertisements; avoid misleading advertising; publicly and prominently display their limits of liability; and compensate passengers for any downgrades in service.

CANADA AIRPORTS ACT

In 2001, the Government of Canada announced its intention to develop a *Canada Airports Act*. The proposed legislation will clarify the roles and responsibilities of airport authorities. Preliminary drafts have focused on a number of other issues, including accountability to the public and users, improved governance, principles for setting fees, oversight of ancillary activities, and requirements to respect Canada's international obligations.

The legislation builds upon the 1994 National Airports Policy and will complete the legislative base for all components of the air industry, including NAV CANADA, airlines and airports. The legislation will address the issues raised in the *Local Airports Authority Lease Review Consultation Report*, the concerns expressed by the Auditor General in October 2000, and the July 2001 report of the *Canada Transportation Act* Review Panel. It is expected that the Bill will tabled in the House of Commons in March 2003.

RENT REVIEW

In 2001, the Government of Canada announced that it would review the rent policy for leased airports in the National Airports System, as the majority of transfers to local operators were completed. The review is in response to the demands of airports and aviation communities and to the concerns expressed by the Auditor General in October 2000. It will ensure that the federal government's airport rent policy balances the interests of all stakeholders, including the air industry and Canadian taxpayers. The review is being conducted at the same time as, but independently of, the development of the proposed *Canada Airports Act*, and involves consultations with stakeholders.

COMPUTER RESERVATION SYSTEMS

Most airlines use a computer reservation system to distribute their air services to travel agents for sale. These systems are governed by regulations passed in 1995 under the *Aeronautics Act* to ensure adequate competition. To address the restructuring of the Canadian air market as well as increased reliance on Internet bookings, Transport Canada began a review of its regulations respecting computer reservation systems. Results of this review are expected in June 2003.

AIR TRAVELLERS SECURITY CHARGE

The Air Travellers Security Charge, announced in Budget 2001 of the federal government, became effective on April 1, 2002. The charge is paid by air travelers to fund the costs of the enhanced air travel security system introduced in response to the terrorist attacks in the United States of September 11, 2001. The air carrier collects the charge from the purchaser of an air transportation service at the time of payment for the air travel. The cost of the charge was set at $12 per enplanement, up to a maximum of $24 per ticket, for air travel within Canada, $12 for transborder air travel to the continental United States, and $24 for other international air travel. For domestic travel, the charge applies to flights between the 89 airports at which the Canadian Air Transport Security Authority delivers the enhanced air travel security system.

AMENDMENTS TO THE COMPETITION ACT

Bill C-23, passed in June 2002, allows the Competition Tribunal to extend the duration of cease and desist orders issued by the Commissioner of Competition where necessary for the Commissioner to complete an examination of a matter. The Bill also gave the Tribunal its own power to issue a cease and desist order while an investigation by the Commissioner is under way. Cease and desist orders are used to stop potentially anti-competitive activity prior to a final decision being made on the legitimacy of the activity in question. Bill C-23 also gives the Competition Bureau the power to impose administrative monetary penalties of up to $15 million on a person operating a domestic air service that is found to have abused its dominant position.

ELECTRONIC COLLECTION OF AIR TRANSPORTATION STATISTICS

Electronic Collection of Air Transportation Statistics (ECATS) is a pilot project for collecting and providing air transportation data to the industry, with the assistance of Statistics Canada and the Canadian Transportation Agency. Six airports and five airlines took part in the project, and the evaluation made by participants recommended to expand ECATS to all carriers and airports.

AIRLINE COMPENSATION PROGRAM

On October 2, 2001, the Minister announced a $160-million program to compensate Canadian air carriers and specialty air operators for losses resulting from the closure of Canada's airspace following the terrorist attacks of September 11, 2001. The first payments were made in October 2001, and all payments, which totalled $99,318,412.98, were completed by May 2002.

THIRD-PARTY WAR AND TERRORISM LIABILITIES INDEMNIFICATION

On September 22, 2001, after international insurers withdrew previous levels of coverage, the federal government announced that it would provide short-term indemnification for third-party war and terrorism liabilities for providers of essential aviation services in Canada. This indemnity continues to be in force, for renewable periods of 60 days. Efforts are still under way to develop an international, longer-term solution.

PROVINCIAL AND TERRITORIAL INITIATIVES

On November 14, 2002, the Government of Quebec and Air Canada announced a three-year agreement under which the airline provides reduced fares to non-government users of air transportation services on 15 regional routes and continuation of service on these routes in return for the Quebec government increasing purchases of air services from Air Canada. Following a complaint from Jetsgo, the Competition Bureau examined the agreement but found that it did not breach the *Competition Act*.

The Yukon adopted its Government Air Travel Policy in April 2002 stipulating that the government has to purchase air travel equally between competing airlines that provide year-round service. It also allows the government to temporarily stop doing business with any airline it believes is trying to drive other carriers out of the market. The Nunavut Territorial Government is in the process of assessing air services in the territory with a view to working with carriers to improve routings and frequencies.

PRECLEARANCE ACT

The *Preclearance Act* and its accompanying regulations entered into force on May 1, 2002. Under the Act, U.S. border inspectors may administer, within the confines of preclearance areas at designated Canadian airports, certain U.S. laws related to customs, immigration, public health, food inspection, and plant and animal health.

However, U.S. preclearance officers cannot exercise the authorities granted under the Act until preclearance areas have been designated and the 2001 Canada–U.S. Preclearance Agreement is brought into force. The designation of preclearance areas, which is the responsibility of the Minister of Transport (in consulation with the Minister of Foreign Affairs), and the entry into force of the Preclearance Agreement are expected to occur in 2003.

The entry into force of the Preclearance Agreement will formalize intransit preclearance at Vancouver (currently provided on a pilot basis) and allow for its introduction at Calgary, Montreal and Toronto. Other Canadian airports with U.S. preclearance (Edmonton, Ottawa, Winnipeg) will subsequently be eligible for intransit preclearance.

MULTIPLE DESIGNATION POLICY

On May 21, 2002, the Minister announced a new multiple designation policy that allows all carriers to apply to operate scheduled international air services to any air market regardless of market size. Previously, the policy allowed for designation of only one Canadian carrier in markets where there are fewer than 300,000 one-way scheduled passenger trips per year. The threshold was eliminated to encourage competition, innovation and growth in the airline industry, and to provide increased international travel options for consumers. The modification to the policy allowed for Air Transat to be designated to serve a number of new European destinations: Portugal, Belgium, the Netherlands, Ireland, Italy and Poland. The new policy has no effect on the Canada–U.S. Open Skies Agreement, which already allowed for multiple designations.

BILATERAL AGREEMENTS

Canada established its schedule for bilateral air transport negotiations in 2002. This was in response to the priorities of Canada's air carrier industry and to requests from foreign governments. Canada's charter air carriers showed a continued interest in operating scheduled international air services in 2002.

Significant amendments and expanded air service opportunities were obtained through bilateral air transport agreements concluded with Italy in May, the Czech Republic in June, Switzerland in October and Hong Kong in December. More cities in Canada are now open for scheduled air services, as are more cities in Italy and Switzerland. Canadian, Swiss, Italian, Czech and Hong Kong airlines now have greater flexibility in deciding whether to operate their own aircraft and/or code-share air services. The amended agreements with Italy, the Czech Republic and Switzerland contain strong aviation safety and security provisions and allow airlines greater flexibility in capacity and offered prices. New arrangements with Hong Kong include the addition of liberal code-share rights, which allow one airline to put its designator code on another airline's flight. These new rights will allow Air Canada and any other Canadian airline that may be designated in the future to share codes with other airlines to, from and beyond Hong Kong, a principal Asian gateway. Cathay Pacific Airways and any other designated airlines of Hong Kong will enjoy similar opportunities to, from and beyond Canada. Air service arrangements with Israel and New Zealand were extended during the year providing new opportunities for airlines.

INFRASTRUCTURE

Canada's air transportation infrastructure is composed of airports and the Air Navigation System (ANS). Transport Canada's role with respect to airports has shifted from owner and operator to landlord and regulator, and while it continues to be responsible for the regulation and safety of the ANS, it has transferred ownership to NAV CANADA. These changes were designed to promote safety, efficiency, affordability, service integration, innovation and commercialization.

AIRPORTS

Canada's approximately 1,700 aerodromes are divided into three categories: water bases for floatplanes, heliports for helicopters, and land airports for fixed-wing aircraft. Aerodromes refer to facilities registered with Transport Canada as aircraft landing and take-off sites.

Most of Canada's commercial air activity takes place at certified land airports, sites that because of their level of activity or location are required to meet Transport Canada's airport certification standards.

At the close of 2002, the *Canada Flight Supplement* and the *Canada Water Aerodrome Supplement* listed 1,722 certified or regulated sites. Table 9-1 shows the number of airports for fixed-wing aircraft in Canada.

TABLE 9-1: CANADIAN LAND AIRPORTS FOR FIXED-WING AIRCRAFT, 2002

	Certified	*Registered*	*Military*	*Total*
Heliports	179	81	9	269
Water	11	332	0	343
Land	352	745	13	1,110
Total	**542**	**1,158**	**22**	**1,722**

Source: Canada Flight Supplement, January 23, 2003; Water Aerodrome Supplement, March 23, 2002

A total of 263 land airports offered scheduled passenger service, while the other 847 were available for other public and private uses.

Since the introduction of the National Airports Policy in 1994, the federal government has been reducing its role in the management, operation and ownership of airports. The transfer process has been largely completed, and the current state of transfer is posted monthly on Transport Canada's Web site at www.tc.gc.ca/programs/airports/status/menu.htm.

AIRPORT AUTHORITY REVENUES AND EXPENSES

Airport authorities operate the majority of federally owned NAS airports under long-term leases; the exceptions are the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations with independent Boards of Directors. Their financial statements for the year ending in 2001 are shown in Addendum Table A9-1. Prince George Airport is the only NAS airport that has not been transferred to an airport authority. It is scheduled for transfer on March 31, 2003.

AIRPORTS CAPITAL ASSISTANCE PROGRAM

Since April 1995, Transport Canada has funded the Airports Capital Assistance Program (ACAP) to help eligible non-NAS airports finance capital projects related to safety, asset protection and operating cost reduction. To be eligible, the airports must receive a minimum of 1,000 passengers annually, meet airport certification requirements, and not be owned by the federal government. In 2002, the program approved 52 projects at 40 airports for an estimated total funding of $40.8 million. Addendum Table A9-2 shows, by province, the allocation of ACAP funds since the inception of the program, while Addendum Table A9-3 lists ACAP projects approved in 2002.

AIRPORT IMPROVEMENT FEES

A number of airport authorities have introduced Airport Improvement Fees (AIFs) in recent years. On average, AIFs now represent approximately 20 per cent of total airport revenues, and this percentage continues to grow. Most AIFs currently vary from $10 to $15 per passenger. The majority of AIFs are collected through the airlines' ticket systems, but some are collected directly by the airport. For a list of the current AIFs for the 26 NAS airports, see Table A9-4 in the Addendum.

AIR NAVIGATION SYSTEM

NAV CANADA is the not-for-profit, private corporation that owns and operates Canada's civil Air Navigation System. It purchased the system from the federal government on November 1, 1996, for $1.5 billion. The system is made up of seven Area Control Centres, one terminal control unit, 43 control towers, 77 flight service stations and 67 maintenance centres, as well as more than 1,400 ground-based navigational aids. NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. Since 1996, NAV CANADA has committed close to $1 billion in new systems and technology.

FINANCIAL PERFORMANCE

NAV CANADA has the right to set and collect ANS customer service charges from aircraft owners and operators. Most ANS customer service charges are applicable to commercial air carriers. As a result, the financial instability of individual air carriers may have short-term effects on NAV CANADA's cash flows.

In accordance with the *Civil Air Navigation Services Commercialization Act*, NAV CANADA operates on a break-even basis. For fiscal year 2001/02, revenues matched expenses at $971 million (compared with $916 million in 2000/01), but this was only made possible through the full utilization of the company's rate stabilization account, which is now in a $19 million deficit position.

The terrorist attacks of September 11, 2001, and the slowdown in the global economy have had and continue to have a significant negative effect on the aviation industry worldwide. Since then, many air carriers have significantly reduced capacity as a result of lower passenger volumes. Despite a gradual increase in air traffic during the latter half of fiscal 2001/02, the overall reduction has had and continues to have a significant negative effect on NAV CANADA's revenues. The revenue shortfall from the level anticipated prior to September 11, 2001, over the four fiscal years ending August 31, 2002 to 2005, is anticipated to be approximately $360 million, assuming that there will be no significant macroeconomic forces affecting air traffic. Actual shortfalls in revenue will require adjustments to future customer service charges, increased revenue from other sources and/or expense reductions to meet the charging principles under the *Air Navigation System Act*.

While NAV CANADA has been affected by the current industry downturn, it developed a balanced plan to make up for an anticipated $145 million shortfall in the fiscal year ending August 31, 2002. The plan involves a combination of the following: expense reductions; new revenue through a 6 per cent service charge increase that came into effect on January 1, 2002; and revenue from its rate stabilization fund. An additional 3 per cent increase in the service charge will come into effect on January 1, 2003. Table 9-2 summarizes NAV CANADA's financial status in 2000/01 and 2001/02.

TABLE 9-2: FINANCIAL SUMMARY FOR NAV CANADA, 2001 AND 2002

(Thousands of dollars)

	2000/01	*2001/02*
Total Revenues	915,653	971,247
Operating Expenses	717,176	763,511
Other Expenditures	198,477	207,736
Capital Expenditures	**(114,034)**	**(123,405)**

Source: NAV CANADA annual reports

INDUSTRY STRUCTURE

KEY PLAYERS

AIR CANADA AND SUBSIDIARIES

Air Canada, together with its subsidiaries, remained Canada's largest airline in 2002, with $9.8 billion in revenues. It provided domestic service to 66 points in Canada, 55 in the United States and 30 international destinations in 23 countries. It is a founding member of Star Alliance, a consortium of 14 airlines that serve 729 destinations in 124 countries. Air Canada also has three wholly owned subsidiaries: Jazz operates less busy domestic and transborder routes, particularly to small communities; Zip began service on September 22, 2002, providing frequent low-fare service on domestic routes; and Air Canada Vacations offers tour packages to popular destinations. In addition to its subsidiaries, Air Canada offers no-frills service under the brand name Tango to the most popular destinations in Canada and the United States. Jetz, an internal division of Air Canada, offers premium charter service to sports teams and businesses. In addition, there are four independent local service operators (Air Creebec, Air Georgian, Air Labrador and Central Mountain Air) that offer regional services on behalf of Air Canada.

LOW-COST CARRIERS

Domestically, and on some transborder routes, Canada has seen the entry and growth of a number of low-cost, no-frills carriers in recent years. In fact, these carriers have been the source of most traffic growth, a trend that can be seen in Canada and around the world. Calgary-based WestJet is now Canada's second-largest domestic airline in terms of passengers carried. It serves 21 cities with 36 aircraft and in 2002 had revenues of $594 million. CanJet, based in Halifax, restarted service in June 2002 following a 14-month absence after its earlier acquisition by Canada 3000, which subsequently went bankrupt in 2001. By year-end, CanJet was operating five aircraft to seven Canadian cities. Montreal-based Jetsgo by year-end was serving six Canadian destinations with three aircraft.

CHARTER AIR SERVICES

Canada has a number of charter airlines that provide service both domestically and internationally. Their focus is point-to-point transportation serving leisure destinations, often as part of a vacation package. Their markets are typically served with low frequencies (sometimes only one or two flights a week) and are highly seasonal, with summer service mainly to Europe or within Canada and winter service to the south. The major players in this segment of the industry are Air Transat and SkyService Airlines. Montreal-based Air Transat is Canada's second-largest airline in terms of revenues ($801 million in 2001) and has a fleet of 17 aircraft. SkyService is based in Mississauga and serves nine domestic points on behalf of Conquest Vacations. It has announced a plan to expand its fleet from 5 to 11 aircraft by the spring of 2003.

The market has also seen two recent entrants: Vancouver-based HMY Airways began international charter service to Mexico, Manchester, Las Vegas and Los Angeles with two aircraft in November; and Ottawa-based Zoom Airlines began service to southern vacation destinations in December 2002 in conjunction with Go Travel Direct Vacations.

FOREIGN AIRLINES

Twelve U.S. airlines serve 17 Canadian cities, while 30 foreign airlines provide service from Canada (primarily from Montreal, Toronto and Vancouver) to 39 international destinations in 28 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Table A9-5 in the Addendum.

NORTHERN AIRLINES

A number of airlines provide year-round service, both scheduled and charter, across northern Canada with combination passenger and cargo aircraft. The major participants are First Air, Canadian North (incorporated as Air NorTerra) and Air North, each of which is partially or wholly owned by Aboriginal groups. Air North is the most recent entrant, having started service in June 2002.

Canadian North extended its service to more remote communities in 2002 with new code-sharing relationships with Kenn Borek Air and North-Wright Airways.

LOCAL SERVICE AIRLINES

Smaller local airlines also provide service across Canada, particularly to remote communities, in niche markets (e.g. Bearskin Airlines' service from Ottawa to Toronto/Buttonville, and floatplane and helicopter services in British Columbia), and as alternative services in some regional markets (e.g. Hawkair in British Columbia and Provincial Airlines in eastern Canada). For a list of the largest of these airlines and their major areas of operation, see Table A9-6 in the Addendum.

ALL-CARGO AIRLINES

A number of all-cargo airlines provide jet service on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers. They include All-Canada Express, Cargojet Canada and ICC Canada, all based in Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton. Cargojet Canada is the newest entrant in the market, having previously purchased Canada 3000 Cargo Inc. More recently, it also acquired shares of Winnport Logistics of Winnipeg.

GENERAL AVIATION

General aviation represents about half of all aircraft movements at controlled airports in Canada, although much of the activity in 2002 was at non-controlled airports.

COMMERCIAL AVIATION

The actual number of airlines operating in Canada is much larger than the previous section implies. At the end of 2002, the Canadian Transportation Agency reported that more than 2,000 licences were active. Table A9-7 in the Addendum shows the number of licences held as of December 31, 2002.

The number of personnel licences issued by Transport Canada confirms the importance of the commercial sector. The number of commercial licences held in 2002 is roughly equal to the number of air transport licences. Table A9-8 in the Addendum summarizes the number of personnel licences issued, while Table A9-9 gives a provincial breakdown of the licences.

Specialty air services are those services that use aircraft but do not involve the movement of passengers or cargo between two points. They include such diverse services as flight training, parachute jumping, glider towing, aerial forest fire management and fire fighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and heli-logging, as well as hovercraft services. While some large companies (e.g. Canadian Helicopters) are represented in this sector, many of the companies are very small operators serving local markets.

BUSINESS AVIATION

Business aviation continued to grow in 2002 due to fractional ownership, which allows individuals or businesses that would not otherwise be permitted to own aircraft on their own to share in an aircraft's use by purchasing units of flight time. This type of aircraft ownership is regulated in Canada as a commercial air service.

RECREATIONAL AVIATION

Recreational flying in its various forms represented the bulk of general aviation activity. It accounts for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada in 2002. It is also the largest segment of Canadian civil aviation activity. While most recreational aircraft are standard planes, this segment also includes all other types of recreational aircraft such as ultra-lights, gliders and balloons, among others. For further detail on the types of aircraft operated, see Table A9-10 in the Addendum.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

In 2001, the total revenue generated in the air transport industry dropped for the first time since 1993, by 8.4 per cent. Decreases were observed in most passenger markets as well as freight services. Although the prices of air services dropped by 3.6 per cent, this was not enough to stimulate the overall demand, which decreased by five per cent; this pattern has not been observed since the end of the 1970s. Canadian air carrier passenger traffic is expected to have fallen again in 2002, a result of the higher costs of air travel.

Continued industry restructuring yielded productivity gains of 5.2 per cent, a recovery from the 2000 decline. These gains, however, were offset by large factor price increases, most notably labour. In the end, unit costs rose by 1.5 per cent in 2001. Since 1991, productivity gains have been limited to 0.9 per cent per year, i.e. half the gains recorded by the combined rail freight, air transport and trucking industries. Factor prices, which are mostly beyond the control of the industry, increased by 4.2 per cent, 2.6 times faster than general inflation. As a result, unit costs increased by 3.3 per cent per year from 1996 to 2001.

The airline industry had a difficult year in 2001. Air Canada reported a total loss of $1.3 billion, Canada 3000 ceased operation, and Air Transat restructured its operations. Bucking the trend, WestJet reported a profit of $37 million. In 2002, although the situation improved, the industry continued to experience difficulty. Despite $9.8 billion in revenues, Air Canada reported a loss of $428 million. WestJet reported profits of $51.8 million and Air Transat's parent, Transat A.T. Inc., returned to profitability with $7.8 million in net income.

For more information on price, productivity and financial performance of the air transport industry, see Tables A2-61 to A2-64 of the Addendum.

FREIGHT TRANSPORTATION

Air cargo is carried in the belly-hold of passenger aircraft, in passenger/cargo combination or in all-cargo aircraft. Because Canada's domestic air cargo market is deregulated, there are no restrictions on routing, capacity or price. Transborder and international air cargo services are covered by bilateral air agreements, other international agreements and national policies. There is currently no Canadian carrier presence in the international (non-transborder) all-cargo air services industry, although cargo is carried in the belly-hold of passenger aircraft.

There are several operators in Canada dedicated to providing all-cargo service, with a total of 50 aircraft and combined revenue in 2002 of $300 million. Air Canada provides air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for 6 per cent of its revenues in 2002. Air NorTerra and First Air also provide air cargo services in the North, along with numerous other smaller operators.

Table A9-11 in the Addendum shows the volume of goods carried by Canadian air carriers on all-cargo services from 1993 to 2001. Between 2000 and 2001, the number of tonnes carried dropped in all markets, particularly the transborder and international markets. The domestic market dropped by two per cent. Table A9-12 in the Addendum shows the operating revenues generated by goods carried on Canadian air carriers' all-cargo services. Between 2000 and 2001, domestic revenues dropped by seven per cent, while international and transborder revenues (combined) remained stable.

Table A9-13 in the Addendum compares the value of goods shipped by air versus other modes. While air cargo trade between Canada and the United States rose steadily between 1997 and 2000, the decrease in 2001 continued in 2002, with a decline of $6.5 billion, or 15 per cent. This loss was slightly higher in the import than the export sector. Air cargo's share of total Canada–U.S. trade was 6.5 per cent in 2002, down from a high of 8.1 per cent in 2000.

As Table A9-13 in the Addendum shows, Canada's air trade with countries other than the United States also declined in 2002, from $39.9 billion to $38.7 billion, but at a slower rate than in 2001. As with the United States, the loss was slightly higher on the import than the export side. Trade remained import-oriented, accounting for more than twice the value of exported goods. The air mode's share of the total value of trade with other countries dropped from 22.6 per cent to 21.5 per cent.

Of goods shipped by air, 85 per cent had eastern provinces as their origin or destination. As expected, the United States, followed by countries in Western Europe and in Asia, were the main markets for trade with Canada using air transport. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum.

PASSENGER TRANSPORTATION

TRAFFIC

The events of September 11, 2001, had an enormous impact on air traffic levels, which decreased from a peak of 60 million passengers in 2000 to an estimated 55 million passengers in 2002. Transborder traffic was the most severely affected, with a 13 per cent decrease between 2000 and 2002. The international and domestic sectors fared slightly better, each having losses of close to 5 per cent over the two years. The situation has stabilized since September 2002 with results no longer showing year-over-year decreases; however, there are no signs that traffic is recovering to pre-September 2001 levels. Table 9-3 shows the continued decline in traffic since September 11, 2001.

For a summary of 2001 traffic for the 26 NAS airports, by sector and region, see Table A9-15 in the Addendum.

TABLE 9-3: AIR PASSENGER TRAFFIC, 1998 – 2002

(Thousands of passengers)

	Domestic	*Transborder*	*International*	*Total*
Air Passengers				
1998	26,093	19,010	11,574	56,677
1999	26,645	19,644	12,271	58,560
2000	26,229	20,751	12,990	59,970
2001	25,921	19,371	13,043	58,335
2002	24,936	17,957	12,365	55,258
Annual Change (Per cent)				
1998 – 1999	2.1	3.3	6.0	3.3
1999 – 2000	(1.6)	5.6	5.9	2.4
2000 – 2001	(1.2)	(6.7)	0.4	(2.7)
2001 – 2002	(3.8)	(7.3)	(5.2)	(5.3)

Notes:

Data estimated for 2002.

Passenger traffic is based on enplaned and deplaned passengers, but results for the domestic sector have been divided by two to avoid the double-counting of passengers.

Source: Statistics Canada

SERVICES

Domestically, low-fare airlines continued to expand (see Table A9-16 in the Addendum for a list of new and discontinued domestic services). WestJet expanded into the east with the addition of services to London, Sault Ste. Marie and, most significantly, Toronto. Both Jetsgo and SkyService added regular service in transcontinental markets and to Atlantic Canada. Air Canada Tango began to serve several new destinations, including Fredericton, Quebec, Regina, Saint John, Saskatoon and Thunder Bay. Air North started jet service from Whitehorse to Calgary, Edmonton and Vancouver.

Air Canada's regional service commitments, made to the Minister of Transport when it acquired Canadian Airlines in December 1999, will expire on January 4, 2003. At that time, Air Canada will withdraw its service to St.-Leonard in New Brunswick, Stephenville in Newfoundland and Labrador and Yarmouth in Nova Scotia. It will also remove its code from flights serving High Level, Peace River and Rainbow Lake in Alberta, although service will continue to be provided by Central Mountain Air. Smaller carriers will be replacing services to both Yarmouth and Stephenville, although St.-Leonard will remain without a new carrier.

During 2002, service was withdrawn from points where Air Canada did not have regional service commitments: Campbell River, Comox, Dawson Creek and Lloydminster, as well as service linking Newfoundland and Labrador. All carriers are still required to provide 120 days notice of any discontinuance of service where there is no, or minimal, other service on the route in question. In such cases, they are also required to consult with the community in question.

In the transborder sector, there has been a tendency to add routes that cater more to leisure passengers than business passengers, as can be seen with the start-up of new services to sunspots such as Hawaii, Florida and the U.S. Southwest in the winter. Several airlines in Calgary, Montreal and Vancouver have also started summer-only services. For more details on both new and discontinued transborder services, see Table A9-17 in the Addendum.

As Table A9-18 in the Addendum shows, there have been fewer changes in the international markets. Air Canada has added new service to Amsterdam, Madrid, Dublin and Shannon. It also added Rome as a result of the revised Canada–Italy bilateral air services agreement. Air Canada discontinued its services to Argentina, Australia, Zurich, Taipei and Milan; however, it intends to re-enter the Zurich and Taipei markets in the summer of 2003. In terms of foreign carriers, Austrian Airlines, Alitalia and Mexicana each added flights to Canada, while services to Havana, San Salvador and San Jose by TACA/LACSA were discontinued.

COMPETITION

Economic turbulence, high fuel prices and the effects of the September 11, 2001, terrorist attacks in the United States continued to be felt throughout the airline industry in 2002. Air carriers worldwide struggled to adjust to the changing market and to maintain their economic viability.

Domestically, there was considerable movement in capacity shares. Air Canada's domestic market share dropped from 78 per cent in December 2001 to 67 per cent in December 2002 despite the expansion of Tango flights and the introduction of Zip. WestJet continued to expand in the West, gaining close to a 50 per cent market share in that market and a 20 per cent market share on a national basis. It also introduced its first flights to Toronto, with service to Calgary, Edmonton and Vancouver. CanJet, which had previously been sold to Canada 3000 in 2001, resumed service in Atlantic and Central Canada in June 2002. Jetsgo Corporation, also entering the market in June 2002, made a competitive impact on routes across Canada. Carriers such as First Air and Air NorTerra grew in strength in the North, while SkyService expanded its domestic service, and Air Transat remained Canada's primary international charter carrier.

For more detailed information on domestic capacity share by airline and by region in December 2002, see tables A9-19 and A9-20 in the Addendum, and for the summarized results of the top 25 markets, see Table A9-21.

ISBN-0-662-31547-2

9 780662 315476

Cat. No. T1-10/2002E
ISBN 0-662-34028-0

Également disponible en français sous le titre « Les transports au Canada 2002 »